MountainRise

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BY WAY OF INTRODUCTION: IT TAKES A VILLAGE

"It takes a village to raise a child" is an African proverb, believed to be Nigerian Igbo in origin, and refers to the importance of the extended family. In 1996, Hilary Clinton used the saying as the title for her book about the collective social responsibility for educating children. This 'grand reopening' issue of MountainRise, our figurative child, has taken a village to raise and illustrates both interpretations of the proverb.

True to its original meaning, the move to our new electronic platform required our extended family, the staff of the Coulter Faculty Center at Western Carolina University, to complete. Programming and server administration was done by Chris Baxley, our Blackboard systems administrator, and database management by our faculty fellow for the Scholarship of Teaching and Learning (and Associate Editor), Barbara Jo White. One of our talented student workers, Shawna Solito, did the graphic design and layout and our professional writing intern, Tiffany Barnwell, worked on the content and automated responses. Our graduate assistant, Mai Xiong, did the copy-editing for the issue. Robert Crow, our instructional designer (and Associate Editor) handled publicity and coordination. Sue Grider, our Instructional Technology Trainer, contributed a book review. The family metaphor can also be extended to our Editorial board, whose thoughtful and constructive critiques have led to the success and high quality standards that the journal now enjoys.

Clinton broadened the meaning of the original phrase "it takes a village" to include all members of society. In this sense, the contributors to the journal have provided perspectives that demonstrate the interplay between faculty, staff, administrators, and students in improving

teaching and learning in higher education. Jace Hargis and Pete Schroeder discuss how faculty development staff created a pilot program that incorporated innovative uses of physical space into the learning environment. Several articles discuss how faculty evaluate the tools and methods they use in the classroom. For example, Chet Dilday investigates the impact of information compiled in CD-Rom format on research success and Patricia Terry looks at how students learn and integrate social justice concepts. Not all of the articles deal with classroom based collaboration, as Catherine King outlines a program for creating productive collaboration between faculty and in-service K-12 teachers. Students are the center of Robert Drake's piece that covers the changing nature of faculty-student relationships. Finally, Vittal Anantatmula brings the discipline into the conversation with his exploration of what project management techniques can do to facilitate effective student advising. Historically, the health of a village economy depended on a collective commitment to long term sustainability and the contributors to this issue show their commitment by creating durable structures, tools, and methods for effective student learning.

This introduction centers on the metaphor of the village. The journal, too, was founded on a metaphor. MountainRise was started in 2003 with the philosophy that the journal would be able to rise, literally and figuratively, over the Blue Ridge Mountains of rural North Carolina, and to create an international community, or village, of scholars interested in teaching and learning in higher education. As we continue to gain new villagers, we are expanding and changing our format to accommodate them.

We hope you enjoy the journal's new look. We have added many interactive features, an electronic reviewing/tracking system, and new genres, including book reviews, case studies, and video-enhanced articles. Articles from the journal are fully accessible through the Education Database in EBSCO host as well as through our new site (no need to change your bookmarks, the old URL has been changed to get you there). Welcome to our new village!

Laura Cruz
Editor-in-Chief, MountainRise

Student and Faculty Perspectives of a Scalable, Sustainable Higher Education Learning-Rich Classroom

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Abstract

This article profiles the development of a sustainable, learning-rich room and provides student and faculty perspectives on its effectiveness. The room features mobile furniture and instructional technology – interactive whiteboard, student response systems and FLIP camcorders. Three faculty members were selected to use the classroom for instruction. Data was collected via student surveys and videos as well as faculty meetings, videos, surveys, and reports. Faculty made extensive use of the classroom infrastructure by employing a wide variety of active teaching methods. The success of the Learning Lab resulted has given administration new opportunities to explore innovative teaching through building learning rich classrooms.

"Good teaching is the creating of those circumstances that lead to significant learning in others." – Don Finkel (2000)

Creating such circumstances is often difficult in today's cash-strapped college environment, but this paper will share the steps in creating a scalable, sustainable "Learning-Rich Laboratory." In addition to sharing the process, this paper will profile the inquiry-based active teaching and learning that occurred in the lab and present the resulting data on the effectiveness of this lab for creating engaging teaching methods. Ultimately, our goal for this paper is to help other centers, as well as faculty members, create similar learning environments where new instructional techniques can be discovered and subsequently translate the experiences to other courses.

The goal of the Learning Lab is to create an ideal learning environment to implement active strategies by capitalizing on instructional technology and other teaching tools. The items purchased for the lab--a Smart Interactive Whiteboard (SB680i2-Unifi 45 projector) ($3300); Audio (SBA-NA USB audio system for 600 series) ($300); Chairs (Torsion/Go Tablet armchair) ($390/each); Whiteboards (Rolling 4 pt base Marker board 48"x66" w/casters) ($350/each)--totaled about $15,000. The intent was to significantly assist each faculty member in generating interactive learning strategies by using electronic instructional material. Data was collected in order to determine the effectiveness of these strategies so faculty can implement the best practices into their other courses.

In return for our dedicated services, each Faculty Fellow agreed in writing to:

- Grant full access to their lesson plans, online course sites, teaching material, etc., so that we may better assist in offering the most appropriate types of electronic tools;
- Provide their permission to capture all activities in class using video, audio, etc.;
- Allow the Center to share their image, work, etc. widely as a showcase example; and
- Assist/author in the preparation of a scholarly manuscript on teaching and learning.

As part of this learning-rich environment, each student agreed in writing to

- Be prepared and fully engage in the active learning activities;
- Permit the capture and use of their work, images, audio, etc.;
- Be on time, professional and behave as a serious student, on and off camera; and
- Treat the Center and its staff with care, concern and respect.

Literature Review on Learning-Rich Environments

The goal of our learning-rich environment is to maximize student engagement by creating a high degree of instructor-student as well as student-student interaction. Currently, there is only one journal dedicated to learning environments, Learning Environment Research Journal, (www.springer.com/education/journal/10984). Examples of innovative research on exploratory learning rich laboratories is limited, especially in those journals which do not focus on instructional technology. Further, previous research examining the effects of technology-rich classrooms on teaching and learning has been inconclusive. Cohen (1997) explored a high school technology-rich classroom for one year and found that the use of technology had a minimal effect on learning styles or the potential benefits of a constructivist environment. The results did seem to suggest that a technology-rich environment affects the written and unwritten curriculum in a classroom. For example, Zandvliet and Straker (2001) suggested that the appropriate physical conditions for a technology-rich learning environment are necessary to address the psychosocial aspects of student learning which distracts students and instructors from learning outcomes. Clark (1994) suspects that if any learning occurs in a technology-rich environment, it is most likely due to the type of active instructional method embedded in the deployment of instruction. Yet, the quality of their learning environments can predict how well students learn and how they feel about their learning (Taylor, Fraser & Fisher, 1997).

Thus, learning-rich environments require more than the infusion of sophisticated technology. For example, Bransford, Brown, and Cocking. (1999) have created an instructional model which identifies four major aspects, Learner-, Knowledge-, Assessment- and Community-Centered. Delving further into multiple roles for students and teachers, Collins, Brown, and Newman (1989) developed a model for ideal learning environments which contains four primary parameters: content, methods, sequence, and sociology. Although each of these dimensions has been explored throughout the literature, it is the combination and the differentiation of roles for teachers and students that is the hallmark of this model. The Learning Laboratory attempts to assist faculty members in addressing each of these attributes by using new active methods and instructional technology, which may not be available in traditional classrooms. Therefore, the purpose of this article is to examine the effectiveness of a learning-rich laboratory environment from both student and faculty perspectives.

Learning Lab Faculty Fellows Outcomes

Three faculty members were selected as the Center's Faculty Fellows for the spring 2009 term. The selection was based on the faculty members' previous engagement with the Center and interest in integrating additional active learning into their classes. To assess the effectiveness of the Learning Lab, data was collected from both the Learning Lab Faculty Fellows teaching the courses and the students enrolled in those classes. Feedback from the three fellows was generated in four ways. First, the three fellows took part in biweekly discussion meetings hosted by the primary author which centered on four questions:

1. What went well in the lab?
2. What did not go well in the lab?
3. What comments did students make?
4. How could the Learning Lab staff help?

Second, each fellow was provided a list of 145 active learning methods adapted from Angelo and Cross' (1993) *Classroom Assessment Techniques*; Silverman's (1996) *Active Learning: 101 Strategies to Teach Any Subject*; and Van Gundy's (2005) *101 Activities for Teaching Creativity and Problem Solving*. At the bimonthly meetings, each fellow tallied the number and type of active learning strategies which they implemented over the two week period. Third, each fellow also completed a short fifteen minute presentation on the highlights of their use of the Learning Lab. Finally, the fellows provided videotaped comments for a presentation highlighting the Learning Lab.

Student input was collected via pre and post class surveys (Appendix A).[1] The surveys asked eleven questions about student preferences for lecture; visual aids; instructional technology; frequency of asking questions; supplemental notes; communications in and outside of class; and the most important activities professors can do to make lectures interesting and attributes of an outstanding professor. The surveys were administered on the first and last days of class. Student feedback was also captured through video footage and informally through comments overheard by lab fellows and staff.

The results of the surveys indicated that high percentages of students preferred active learning strategies both prior to and following the courses in the Learning Lab. Students prior expectations of active learning were surprising, as many selected our university because our mission "to provide a superior, student-centered learning experience integrating liberal arts and professional education and preparing individuals for lasting achievement and responsible leadership in their careers and communities". In addition, we highly publicize some of the attributes which "What Makes our University Distinctive" on our website at http://pacific.edu/x4033.xml, which includes sections entitled learning tailored to you; practical learning; student community; and student centered education. Chi-square analyses were used to assess any significant changes in student learning

[1] Students agreed in writing, using an IRB approved form, to their data being used for this study

preferences. No significant changes were found as a result of taking a class in the Learning Lab (Table 1).

Table 1. *Student Survey Chi Square Data*

Item	X^2
3. Change in preference for lecture style	3.91
4. Change in the desired proportion of lecture and group work	2.02
5. Change in the desire to have different technologies used in the classroom	1.80
6. Change in the manner in which students wanted professors to ask questions	0.89
7. Change in preference for obtaining materials from lecture.	2.51
8. Change in preference for communicating with professors outside of class	3.43

*p<.05

Descriptive items on the pre and post surveys seemed to indicate that students who selected our institution expected an active learning environment. The tenth item on the survey asked students to choose the most important things a professor can do to make lectures interesting as well as informative. Students gave the highest marks for all three fellows on both pre and post surveys in the category “Shows enthusiasm for subject,” listing it as either first or second on their priorities. The second most popular ranking was, “Has good presentation skills- has clear and expressive voice, speaks at good pace, makes eye contact,” which remained similar from pre to post. The third most popular, “Adds personal stories/experiences/research,” also remained the same after both surveys were compared.

Despite the lack of statistical significance, the qualitative results do indicate that the Learning Lab did facilitate a high degree of active learning. The benefits of the Learning Lab seemed to split into two categories. On one hand, the Learning Lab Faculty Fellows felt that they were able to design

and implement more active learning strategies and assignments than in typical classrooms. At outset of the semester the fellows seemed to use a wide variety of strategies as they were exploring the best ways to make use of the lab. As the semester progressed, they seemed to settle into the types of strategies that best complimented their teaching styles and subject matter. On the other hand, it appeared that students subsequently embraced benefits offered by the technology of the lab and strategies it enabled. As the instructors began to incorporate technology into their assignments, both they and the students felt comfortable taking ownership of the course content.

First for faculty, the design and location of the lab facilitated active learning. Fellows commented that the movable chairs and roominess of the classroom allowed them to, "easily change class set-up…multiple times during class." Such set-ups included partnerships, small groups, and town hall meetings. By arranging the room in such ways, professors indicated that they could move more easily around the room to, "hear what groups are discussing," offer immediate feedback, and simply improve their interactions with students during such periods. These actions were hastened by the presence of movable whiteboards that were used for group notes, concepts maps, lists and other diagrams. Fellows also took advantage of the Learning Lab's location in the University's library. At some point in the semester, all three professors sent their classes into the library to gather information, observe behavior, or to use the library's technological resources. Due to this set-up, the instructors enjoyed the flexibility to try new ideas almost instantaneously. As one fellow noted, "If I had an idea about how to improve a class, I could often implement it on the spot rather than jotting down a note and trying it 'next time'."

Second, the technology in the Learning Lab clearly assisted the fellows' ability to carry out in active learning strategies. Internet access in the lab permitted them to integrate extremely current web content (e.g., articles, pictures, video) into their lessons, and in some cases actually calling up content in the midst of discussions. While the interactive whiteboard was an impressive way to display such visual content, the feature most appreciated by the instructors was the ability write on the board during class discussions and save the diagrammed information for incorporation into future

assignments. Professors noted that FLIP camcorders were an especially helpful element of lab. The availability of these cameras facilitated assignments in the courses, and they were also used as an evaluative tool to critique students' presentations. The student response system (clickers) was the third helpful pedagogical tool. Their clickers' effect was most dramatic when discussing sensitive topics because students were able to remain engaged anonymously. Clicker's also vividly demonstrated student learning. For example, one fellow used them to demonstrate, "the discrepancies between expectations" of the class before and after being presented with research findings.

For students the technology of the Learning Lab seemed to excite them, eliciting comments like "wow," "cool classroom," and "I like this class." Beyond the awe factor, the Learning Lab appeared to facilitate students' engagement with the instructor, their peers, and technology. Students' comments and behaviors demonstrated that the layout of the classroom encouraged increasing quality and quantity in interactions. One fellow indicated that, "students actually wanted to come to the board" to share their ideas. Students also began to naturally claim space in the lab, often space that was not specifically designated for instruction. In these cases it was common for students to take the class technology with them. In one instance, a group moved into the library (not part of the Learning Lab) and took a movable whiteboard and FLIP camcorder with them. In a similar vein, students grew increasingly comfortable using technology and incorporating it into their assignments. At the outset of the semester, students used the technology with trepidation, unsure how markers would work on the interactive whiteboard or how to upload video. However, by semester's end, one professor indicated that students, "presented and integrated many of the tools I use— interactive whiteboards, clickers, video—without me having to tell them."

The faculty fellows agreed that the Learning Lab's technology improved the students' ownership of the course content. The lab enabled students' voices to be heard in many different ways. First, students used the movable whiteboards, FLIP camcorders and interactive whiteboards, "to create, share, and present in a more visual way." Second, the clickers allowed even reticent

students to present their opinions and compare them to those of their classmates. Third, fellows felt the whiteboards, particularly the interactive whiteboard, helped students realize the relevance and value of their ideas. Placing their comments on these interactive boards was merely a start. What the lab then permitted was the ability to save those comments, post them on the class website, and incorporate those comments into future meetings, projects, or tests. It was a benefit of the lab that clearly heightened the importance of student contributions to the class. As one fellow said, "no matter where the discussion goes, students always know they and I are accountable" for all class information.

Discussion

The purpose of this paper was to share information on the development of a learning-rich classroom and examine its effectiveness from student and faculty perspectives. The results of our study indicate that the Learning Lab was a classroom that epitomizes the useful parameters of ideal learning environments (Bransford, et. al., 1999; Collins, Brown & Newman, 1998). This environment facilitated authentic and frequent interactive connections in the classroom. The effects of the success of this pilot program have led to the development of four similar classrooms for the next academic year.

First, the Learning Lab enabled higher levels of interaction to occur. Interactions were frequent between professors and students as well as amongst the students themselves. The interactive whiteboard and the clickers in the classroom enabled students and professors to interact in a variety of formats. The movable furniture allowed professors to modify the room to suit their needs. Both elements of the Learning Lab minimized the difference between the teacher zone and student space that may impede active learning.

Second, the Learning Lab also enabled knowledge to be collected, disseminated and generated in numerous ways. The lab's location in the library offered an active learning advantage in that students could be sent out to gather information and return to convey it to their peers. The interactive whiteboard allowed students and faculty to present information visually, but uniquely let

both students and professors to tinker with that information on the board. The currency of such information was also enhanced by the ability to cull articles, pictures, and video from the internet. The FLIP camcorders allowed students to generate their own knowledge and easily share it with the class. The "ownership of knowledge" that stemmed from the use of the FLIP camcorders clearly reflects the engagement with content that is a hallmark of the ideal active learning environment (Bransford et. al, 1999).

Dynamic assessment is a third element of ideal active learning environments that was achieved in the Learning Lab. Student critiques were a frequent form of assessment in the lab. Whether it was critiquing student presentations with clickers, video clips on the projector, or peer concept maps on the whiteboards, student feedback was consistent and regular. Student projects were also common in the Learning Lab. One professor assessed his students on their ability to plan and carry out a one-day fundraising event. Another class had to develop group videos on pop culture and gender. Thus the Learning Lab enabled professors to get beyond simply using essays and exams as assessments and to focus on student learning in dynamic and meaningful ways.

While these three elements combined to create the community-centered environment needed for active learning, it is the student perceptions of these environments that determine up how well students learn and how they feel about their learning (Taylor, Fraser & Fisher, 1997). Although there was no significant change in learning environment preferences, it was likely due to the high levels of interest in active learning at the outset of the semester. Given that these students attend a small, private university, a keen interest, and perhaps expectation, of active learning classrooms is no surprise. The qualitative results indicate that they took full advantage of the Learning Lab to interactive intensely with their peers and professors, improve their use of technology, and take ownership of the learning process for a true community-centered learning experience.

The Learning Lab was a success for both the Faculty Fellows and their students. The location, design and technology of the lab permitted fellows and students to increase creativity, interaction, enjoyment and most importantly, learning. The elements of the Learning Lab created by

the Center for Teaching and Learning the pedagogical tactics developed by the Faculty Fellows can serve as a model for other professors, departments, and/or institutions seeking to create active learning environments. In fact, the success of the Learning Lab has led to the establishment of four more learning rich classrooms at the University of the Pacific.

Further Work

Although this initiative was more successful than we had anticipated, and in a much shorter timeframe, there is always more we can do. The challenge of an experimental laboratory is to continue exploring alternate methods for teaching and learning. Some of the preliminary ideas for future capabilities involve installing webcams for capturing classroom activities; purchasing a set of FLIP camcorders so that students can work with these on a daily basis and/or check them out; developing a Learning Lab wiki where posts are made in a storyboard fashion; connecting student input to a Twitter account run by the Faculty Center for Teaching and Learning; telecasting the Learning Lab's activity to other schools (both in higher and secondary education); allowing open polling with mobile phones through sites such as www.polleverywhere.com; and collecting and posting the highlights of daily classes on a themed YouTube section. Of course, as more technology and active pedagogical methods are created, the Learning Lab will make itself available to take these risks and collect data so that other students and faculty members can benefit from technology-rich learning environments.

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Appendix A

Student Survey of Teaching Methods **Name** _____ **Date**

1. Academic Level: (a) Freshman (b) Sophomore (c) Junior (d) Senior
2. Gender: (a) Male (b) Female

3. Preferred lectures (a) only most of the time. (b) supported with visual aids. (c) with student discussions/group work.
(d) with visual aids, questions/discussions, and student group work.

4. The ideal proportion of lecture (including use of various visual aids) and student group work
(a) 90% or more lecture and 10% or less student group work (b) 75% lecture and 25% student group work (c) 50% lecture and 50% student group work (d) 25% lecture and 75% student group work

5. A lecture using technology is more effective than one supplemented by traditional aids such as whiteboard and overheads.
(a) True for all cases. (b) True for most cases. (c) Occasionally true. (d) Rarely or never true.

6. Instructor should ask (a) a few questions of students. (b) many questions of students. (c) students to ask questions.

7. Preferred supplemental lecture notes available (a) online PRIOR to class. (b) online AFTER class. (c) at library.

8. Preferred communication WITH instructor outside of classroom:
(a) In person (during office hours or by appointment) exclusively. (b) Prefer in person, but will use e-mail occasionally for convenience. (c) Prefer via e-mail, but will use in-person conferences when necessary or convenient. (d) Via e-mail exclusively.

9. For you to achieve a high GPA, who plays the most responsible role? (a) Myself (b) Professors (c) Parents (d) Other

10. From the list below, choose the FIVE most important things a professor can do to make lectures interesting as well as informative. Rank these in order of importance, by placing a 1-5 on the line in front of the number, 1 being the highest importance.
___ Has good presentation skills- has clear and expressive voice, speaks at good pace, makes eye contact
___ Shows enthusiasm for subject
___ Encourages student participation through open ended questions
___ Varies format/pace/amount of lecture as compared to other activities
___ Uses visual aids
___ Uses innovative methods
___ Adds personal stories/experiences/research
___ Illustrates concepts by giving analogies or describing specific examples
___ Provides comfortable atmosphere that encourages students to ask questions/join in discussions
___ Includes time for student group work in most/all classrooms sessions
___ Explains complex concepts clearly
___ Moves about classroom
___ Other (please feel free to write your ideas in)

11. From the list below, choose the FIVE most important characteristics of an outstanding professor and rank in order of importance, by placing 1-5 numbers on the line next to the item, 1 being the most important.
___ Empathetic

___ Enthusiastic
___ Gets to know students as individuals
___ Humorous
___ Relates to students
___ Intelligent
___ Encouraging and supportive
___ Challenging
___ Available outside the classroom
___ Fair
___ Organized
___ Shows respect for students
___ Maintains discipline in the classroom
___ Uses methods that require us to use critical thinking skills
___ Other (please feel free to write your ideas in)

R P H - Research Proposal Helper: A CD-ROM Based Interactive Research Proposal Preparation Program For Student Research Projects

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Abstract

Students frequently struggle to complete research proposals due to new terminology, lack of critical thinking skills, and exacting procedures demanded by IRB (Institutional Review Board) policies. The RPH (Research Proposal Helper) project is an attempt to alleviate the student's daunting tasks involved with writing research proposals by the use of a CD-ROM based interactive guide program developed by the author. A quasi-experimental pre-test and post-test showed no statistically significant difference between a group of students who used the RPH CD-ROM and a group who used a traditional printed manual. A different post-test only design using a second instrument also showed no significant difference between the groups. Focus group sessions showed that both groups valued the CD-ROM approach. Several suggestions are made for improving the RPH program.

Keywords*:* IRB, RPH, CD-ROM, pre-test, post test, focus group

Identifying Problems and Creating Solutions

Graduate students in Master of Social Work programs often struggle to complete research project proposals. Several problematic student attributes and particular demands of research course requirements and assignments contribute to this situation. They must, for example, differentiate among main hypothesis, secondary hypothesis, and null hypothesis. Students need to understand when to use an independent samples t-test instead of its close cousin, the paired samples t-test. They are not comfortable with thinking of themselves as a "researcher". Many of them have few critical thinking skills (King, Wood, & Mines, 1990). Many are working at the relatively lower skill levels in the cognitive domain of *Bloom's Taxonomy* labeled "knowledge" and "comprehension" ("Taxonomy of Educational Objectives - Wikipedia, the free encyclopedia"). Many feel "overwhelmed" by the long process involved in a substantive research project. Sometimes the university IRB (Institutional Review Board) is difficult to deal with and exacting in its complex requirements.

Many solutions to this ubiquitous problem have been suggested. Most involve some kind of specific resources or guides to the various steps or parts of a research proposal. There are several Internet-based aids such as sites devoted to commentary on the content of the various sections of a well-written research proposal. One example is the University of Michigan Research Page ("Proposal Writer's Guide: Contents") and another is Yenza. Yenza is an inclusive site developed by the South African National Research Foundation and is hosted at a South African university ("Yenza! - Start your research - The research proposal"). A few paper-based guides are available on the Internet from a handful of social work research faculty and from several universities. These are often attached to syllabi or individual course sites.

There is at least one published workbook available that deals specifically with social work research proposals and research reports (Friedman, 2005). Each part of a proposal is presented

with a brief introduction and questions for the student with fill-in-the-blank sections for that part of a proposal. For example, for the data analysis section of a proposal, a chart is provided that suggests a particular statistical test for a particular hypothesis based on the level of measurement for the involved variables. The student then fills in a form with columns for variables, the type of variable and the appropriate statistical test. The pages have perforations along the inside margins so that the student can tear them out and hand them in for assessment and/or feedback purposes. Recent editions of several popular social work research textbooks contain chapters illuminating research proposal details (Rubin & Babbie, 2007). One recent textbook, *The Practice of Research in Social Work* (Engle & Schutt, 2005), has hints at the end of each chapter under the heading “Developing a Research Proposal.” Some graduate programs offer workshops on the various skills that may be needed in a research process including proposal tasks such as literature review strategies.

Finally, a few organizations have developed expensive comprehensive technology based solutions. One group of Pittsburgh area health providers chose a product called *Click Commerce’s eResearch Portal*. A press release described this internet-based program as: “…. a system similar to the leading tax preparation software programs," stated Swanson. "Webridge SmartForms provides us the ability to lead a researcher through a complex set of questions resulting in a protocol that has all the appropriate information filled in. Combined with Webridge's routing and workflow approval, we have a system that addresses the complete needs of the human subjects research oversight process." (“University of Pittsburgh Consortium Selects Webridge Extranet for Institutional Review Board — IRB — Initiative,” 2003). However, many graduate students still struggle with the process.

Literature Review

Several studies have been conducted concerning the use of CD-ROM's for various educational tasks. One project (Gold et al., 2004) designed to help teach thoracic surgery concepts used a CD-ROM Internet hybrid design. This scheme combines CD-based video and audio while test material, references, Internet linkages, frequently asked questions, and so forth are stored on web servers. This approach solves the problem of downloading the large video and audio files over slow Internet connections.

Today, fewer graduate students have slow Internet connections. Broadband connections increased more than 300 percent since 2002; according to an analysis from consumer and media research firm Scarborough Research. I 2002, 12 percent of U.S. adults had a broadband connection in their household. Almost half (49 percent) now have broadband – an increase of more than 300 percent ("Broadband in the United States - Newsletter June, 2005").

Some research has compared the efficacy of CD-ROM's to more traditional methods such as lecture, textbooks, and other types of self-study activities. A group of medical educators (Erkonen, D'Alessandro, Galvin, Albanese, & Michaelsen, 1994) compared the long-term instructional effectiveness of a computer-based radiology multimedia textbook (MMTB) with that of a traditional lecture. This time pre-tests, post-tests, and 1-year long-term retention tests were given to both groups. Long-term results showed that the MMTB was comparable to the lecture method. Short-term results favored the lecture method.

Another study (P. R. Jeffries, 2005) compared the effectiveness of an interactive, multimedia CD-ROM and a traditional lecture for teaching oral medication administration information to nursing students. A randomized pre-test and post-test experimental design was used. One group was given a scripted lecture with black and white overhead transparencies, in addition to an 18-minute videotape on medication administration. The other group used an interactive, multimedia CD-

ROM program, covering the same content. Students in the computer group demonstrated higher student satisfaction and more cognitive gains than the lecture group. Both groups were equal in mastery of the skills. The computer group used 2 hours to learn the material, while students in the lecture group needed 3 hours.

Jeffries also compared the effectiveness of an interactive, multimedia CD-ROM with traditional methods of teaching the skills needed in performing a 12-lead ECG.A pre-test and post-test experimental design was used. One group used a self-study module, a brief lecture and demonstration by an instructor, and hands-on experience using a plastic manikin and a real 12-lead ECG machine in the learning laboratory. The other group used an interactive, multimedia CD-ROM and a self-study module. The results showed that both groups demonstrated the skill correctly on a live, simulated patient. The intent was to show that more cost-effective methods are as effective as traditional methods (PR Jeffries, Woolf, & Linde).

A study using first-year University of North Carolina dental students learning how to perform intra-oral radiography compared computer-assisted instruction (CAI) with lectures (Howerton, Platin, Ludlow, & Tyndall, 2002). This study contained 3 groups: interactive CD only, interactive CD and lecture, and lecture only. A pre-test and post-test design found that there was no significant difference in outcomes. Students did prefer the CAI to lecture format. In another medical education study, third- and fourth-year medical students taking a course on diagnostic radiology were assigned 2 modules. One module used a CAI-video-disc version and the other module used a textbook version. The students using CAI-video-disc scored higher than the students using the textbook. However, even though the CAI medical students scored higher, they spent more time using the video-disc (Chew & Stiles, 199).

Medical researchers working directly with patients have also found favorable results. In one study, children who received CD-ROM based education about their Leukemia had increased

feelings of control over their health than a group of children who read a book about their disease (Dragone, Bush, Jones, Bearison, & Kamani, 2002).

The RPH Project

The RPH project attempts to alleviate the student's daunting tasks involved with writing research proposals. The author wrote a computer program that could be distributed on a CD-ROM. The program was developed using the easy to use rapid development software program, *Runtime Revolution*. This is inexpensive cross-platform software that will produce applications that can be used on Microsoft Windows, Macintosh OSX, and various Unix variants.

The CD-ROM consists of 10 screens (or pages) of information helpful in writing a research proposal. The screens are based on the major sections of a research proposal. Each section has its own distinct screen. The sections include:

1. Problems and Objectives
2. Literature Review
3. Conceptual Framework
4. Measurement
5. Study Participants
6. Design and Data Collection
7. Data Analysis
8. Schedule
9. Budget

Each screen has 2 distinct areas. The left third of the screen and a small bar at the bottom contain navigational aids. On the left is a map with an icon for each of the screens in the order they appear to the student. The current screen is highlighted on the map so that the student

knows where he/she is and what progress has been accomplished. The icons on the map are also in the order of the sections of a research proposal. At the bottom are buttons for moving through the screens. The left also has a drop-down menu labeled “Quick Jump,” which lets the student move to another section with a single click of the mouse. The right side of each screen has 3 scrollable windows. The top window contains a description of that section of a proposal. For example, one of the screens is labeled “Participants.” The middle scrollable window lists examples for that particular section taken from actual proposals. There are both qualitative and quantitative examples listed where appropriate. The bottom window is the area where the student types in his or her own proposal information.

After the student has entered all of the required information, he/she can click on the button labeled “finish proposal,” which leads to a pop-up window that shows a draft of the proposal with the correct headings and all sections in the correct order. The students are then instructed to click on a button labeled “copy” and then paste the draft into a word processing program of their choice which they use to proof, revise, and prepare the final proposal in the format required by the particular institution. There are several salient differences between the CD-ROM version and the print version of RPH. Colorful graphics can easily be included on the CD-ROM. The color can be added without concern for printing cost. A color-based CD-ROM cost no more than a black-and-white CD-ROM. Blank media, both CD-R and CD+R, now cost less than 4 or 5 full-color pages produced on a laser printer. Some students who are visual learners may benefit from the increased number of graphics and the visual interactivity of the CD-ROM version. Even though CD-ROM’s are becoming “obsolete” in this era of flash-drives and inexpensive external and portable hard-drives, information and programs like RPH can easily be saved and distributed in other electronic formats that arise. The print version can only be mailed or made available as a downloadable file. Since easy-to-use programming language is used, future versions can have additional functions, whereas, the print versions can only be improved in minor ways, such as using color ink or different layouts. The CD-ROM version may increase student engagement since the modular approach requires the student to become active because he/she must enter

information to progress to the next section. The student is kept passive when using the print version, whereas he/she merely turns the page to advance to the next section.

There are a few potential issues for those who might use the CD-ROM outside of the United States. Although many European and Asian countries have higher broadband access than the United States, which is ranked fifteenth ("Broadband Internet Subscribers - World Countries," n.d.), many other countries have more limited access to high-speed internet. The CD-ROM can be beneficial to faculty and students in those countries. For example, a CD-ROM distributed to hundreds of African physicians and health ministers has helped them overcome some Internet connection problems and furthered the fight against HIV/AIDS ("CD-ROM brings HIV/AIDS information to countries with poor internet service - UCSF News Office," n.d.).

Methodology

This project used 3 different methodologies. The main part of the project is best described as a quasi-experimental pre-test and post-test comparing 2 experimental (comparison) groups without a control group. Another part of the project used a post-test only design that compared the groups with a second instrument. Finally, focus group sessions were conducted with each experimental group.

Pursuant to Federal Regulation 45CFR46.101(b), the Institutional Review Board of the University granted an exemption from further review since the study entailed no more than "minimal risk" and was research involving a comparison among instructional techniques.

A consent form was distributed to and read to the participants before they took the pre-test. The participants were informed at that time that their participation was voluntary and that they could decline to participate in the experiment at any time and that their decision to decline to participate would not affect their grade for the course. The students were asked to sign 2 copies of the

consent form. They kept 1 copy and the investigator kept the other. The scores participants made on the quiz were not used in any way to determine their grade for the course.

Study Participants

The study participants were all first semester MSW (Master of Social Work) students at an HBCU (Historically Black College or University) in the southeastern United States during the 2005-2006 school year. Each was enrolled in the first of 3 classes in the program's research sequence. There were a total of 30 students in the class. Twenty-five (25) of the students were female and 5 (5) of the students were male.

Data Collection

All of the students in the class were randomly assigned to either Group A or to Group B. The students in Group A received a CD-ROM that contained a computer program designed to aid in constructing a research proposal. The students in Group B received a paper-based guide to aid in constructing a research proposal. The information was presented as an 11 page pamphlet with a different research proposal section on each of the 10 pages following the cover page. Both Group A and Group B were given a pre-test and post-test quiz. The quiz consisted of 27 multiple-choice questions. There were 3 questions about each of the sections of a research proposal. There were, for example, 3 questions concerning a literature review, 3 questions concerning study participants, and 3 questions concerning sampling. The completed proposals were also graded according to a rubric containing 10 dimensions – 1 for each of the proposal sections.

Results

Although students who used the CD-ROM performed higher than those who used the printed version on each of the tests (Post-test Group A Mean = 21.14, Group B Mean = 18.50), none of the statistical test performed using the SPSS 16 program showed a statistically significant difference between the 2 groups. Two different types of t-Test were performed. First, an independent t-Test compared the 2 groups on the grade they received for their final proposal. This t-Test showed that there was no significant difference between the 2 groups in the grade they received (t=.481, df=19, p=.636, two-tailed). Next, subtracting the pre-test score from the post-test score on the proposal quiz created a new change variable. Then, an independent samples t-Test showed that there was no significant difference between the 2 groups in the increase in scores after the students used the 2 aids (t=.774, df=18, p=.449, two-tailed).

Focus group meetings with both comparison groups were conducted during final exam week at the end of the semester. Members of Group A reported that being guided by the computer program was reassuring to them about their ability to complete a successful research proposal project. They agreed by consensus that the RPH program helped them concentrate on one step at a time during their task. The Group A focus group also agreed that the computer program was more helpful than the textbook chapter which outlined the proposal sections.

Members of Group B also considered the written guide to be very helpful. One stated that she could not have completed her proposal without it. They said the printed guide was “straightforward, easy to use, and accessible.” One member of Group B stated that the printed guide “complimented the text book”. A few hinted that they were envious of the group who had been assigned to use the CD-ROM.

Weaknesses of the Current Design

There were several limitations in this first iteration of the program and its evaluative design. There was a marked lack of precision in the instrument used to measure the student's mastery of the proposal process. There were only 3 questions about each of the sections of a proposal. The 2 most important "bugs" in the software involved poor "save" functionality and poor "print" functionality. The students were required to leave the program in a particular location on the computer's hard drive or the changes made to their proposal would be lost when they quit the program. Unfortunately, the completed proposal needed to be imported into a word processing program to add the correct formatting to the document. The current program does not support headings, titles, tables, and other necessary formatting. The student must copy and paste the draft of the proposal into a word processing program for final formatting. In addition, more interactivity between the program and the student user is badly needed. There should be more prompts to aid and direct the student. Some of the sections should have more detailed examples for writing proposals for doing qualitative research

Future Plans

The most common student requested feature was to add an interactive component that would lead the students through steps that would guide them in selecting the correct statistical procedure to test their particular hypotheses. Several interactive web sites already exist that help in this task. The author will provide links to these sites in a future computer version of RPH and a list of the sites in the printed version. The current version of the computer program runs on Macintosh and Windows computers. The next version will also work on computers that use the Linux operating system.

The next version of the program will be distributed only through downloading from an Internet site. The original decision to distribute the program on CD-ROM was based on 2 factors. First, the author planned to add helpful videos to show both how to use the program and to give some

insight into issues the students face when completing some of the proposal sections. For example, a video was planned that was really a tutorial concerning sampling designs. Downloading videos can take a long time over slow Internet connections. A CD-ROM has ample storage area for several such videos. Secondly, based on international studies such as this one (Dijk, 2005), the author assumed that many students would not have access to the Internet. The recent popularity of web sites like *YouTube* has shown that video downloading is much more feasible now. Other studies (and the author's direct experience with students) indicate that virtually no graduate students in the U.S. lack access to the Internet (Hoffman, Novak, & Schlosser, 2006).

Interface Improvements

The current version of RPH requires the user to click on buttons at the bottom of each of the 10 screens (pages) or to "click" and hold on a drop-down menu to navigate through the steps required to construct a proposal. Navigation in the next version of RPH will use a tabbed interface. The student user will simply click on folder-tab like buttons arranged across the upper part of the screen.

Most research methods textbooks have a glossary as an appendix. These glossaries may be very useful to the students but they have 2 weaknesses. The student may lose her train of thought while she finds the textbook, then finds the correct appendix, and then thumbs through the pages to find the alphabetically arranged word or concept. Also, many of the entries are not often required for writing a proposal. A searchable glossary in a pop-up window containing only the most often used terms in a proposal can overcome both of these weaknesses could easily be added to the next version of RPH (Molenaar et al., 2001).

Conclusion

Although, no clear statistically significant differences were found between the 2 experimental groups, the students using the CD-ROM did score higher on both instruments. They also seemed to be very motivated and excited by the use of the computer technology. Both focus groups unanimously encouraged the instructor to continue development of the project and to attempt other similar projects. A larger sample size may well have shown a statistically significant difference.

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Investigating Social Justice Understanding through Student Writing Samples: an Emergent Theme Analysis Approach

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Abstract

This study describes student understanding of social justice. 61 students from three cross-disciplinary courses at a northwest Jesuit university were asked to respond to two social justice writing prompts. These written responses were qualitatively analyzed and interpreted using an emergent theme protocol. Five main themes emerged from the data: equality, service, action/change, ethical framework, and responsibility. These themes and an analysis of student definitions of social justice are displayed to illustrate a range of student understanding. The relationship between selected themes and components of the university's social justice outcomes is also described.

Key Words: social justice, student understanding, writing prompts, qualitative research, assessment, emergent theme analysis.

Introduction and Background

Measuring the level of student understanding of social justice presents a challenge. However, because Jesuit universities, among others, incorporate education for social justice in their mission statements and core curricula, and given the movements toward outcomes-based assessment and rigorous accreditation criteria, new methods are required to describe and assess social justice understanding. This research project qualitatively describes the beliefs 61 students, focusing on their concept of social justice. The characteristics that emerge in this description include a range of student responses that could form the basis of an assessment tool for this central mission outcome.

Funded by a Teagle Foundation grant, a small Jesuit institution recently explored outcomes driven social justice (SJ) education. As one would expect at a Jesuit university, social justice is an important part of the ethos and Ignatian identity. According to the mission statement, the University develops students who possess "a thirst for justice." A committee was created that spanned the curriculum and co-curriculum. The committee proposed a definition of social justice as well as SJ learning outcomes. The definition of social justice education proposed by the University's Social Justice Committee is as follows:

> Social justice education begins with engaging students in the reality of suffering in the human condition, including environmental abuse and the violence that both results from and fosters social injustice; it seeks to awaken a profound empathy and sense of solidarity with those who are victims of unjust decisions, actions and structures, and to provide the critical disciplinary training necessary to understand and combat that injustice; and it attempts to inculcate the requisite habits of mind that lead to appropriate actions in the service of improving the lived experience of all human beings, locally and globally.

In addition to the definition of SJ, the committee also proposed the following SJ learning outcomes for the University. The success of educating for SJ would be seen in graduates who:

1) Demonstrate *self-reflective awareness* of themselves and their relationships with others.
2) Demonstrate *consciousness* of others' distress and a *desire* to alleviate it.
3) Demonstrate a *sense of right and wrong* rooted in justifiable ethical principles.
4) Can *analyze factors* contributing to human suffering and social injustice.
5) Can *apply collaborative problem solving skills* to social injustice situations.
6) Can *apply disciplinary skills and interdisciplinary knowledge* to social justice issues.
7) Are *committed to non-violent solutions.*
8) Demonstrate a *growth in maturity of understanding and actions* over the course of their education.

The University believes that social justice is a critical component of education. As with all admirable mission statements and university outcomes, there exists often an unexamined gray area between the ideal and the real--i.e., what the university hopes to imbue in students and what it actually achieves in students by graduation. A team of three professors (School of Business, College of Arts and Sciences [English], and School of Education) developed a research plan with the goal of describing how students understand SJ across different university disciplines. By gathering and analyzing student perceptions of SJ, the researchers hope to gain a baseline of actual student perceptions about social justice.

Review of Literature

Discussions of social justice often cite the writings of John Locke and David Hume as foundational premises for social justice. Their writings address issues of respect for property, distribution of societal benefits, equal access, economic inequality, and mutually beneficial cooperation, which predates the 20th century formation of social justice as a cohesive subject of inquiry (Clayton, M. & Williams, 3004, p. 21-46). Rawls' seminal work did much to further and clarify social justice as a social and political issue. His influential *A Theory of Justice* (1971) states, "Each person possesses an inviolability founded on justice that even the welfare of society as a whole cannot override" (p. 3). Rawls' basic principles were: freedom

of thought, association and movement, political, relational and personal liberty, and rights covered by the rule of law.

Social justice can also trace its historical roots to Catholic theology, with its emphasis on serving the poor and underprivileged. The term “social justice” is attributed to Jesuit Priest Luigi Taparelli in the 1840s, who believed that economic systems neglected the poor. This is echoed by the Church’s teachings that through words, prayers and deeds one must show solidarity with, and compassion for, the poor, based on the belief that the moral test of any society is how it treats its most vulnerable members.

Social justice has been used to describe the movement towards a socially just world. In this context, SJ is based on the concepts of human rights and equality, and can be defined as "the way in which human rights are manifested in the everyday lives of people at every level of society" (“social justice”). Current social and political issues of global warming, environmental sensitivity, third world hunger, lack of water resources, slavery, and political oppression are increasingly labeled “social justice” issues as articulated by the United Nations (social justice in an Open World: The Role of the United Nations, 2006).

Teaching for social justice has developed into an educational philosophy. Early in the 20th Century, John Dewey in his *Democracy in Education* (1916) and civil rights activist and writer W.E.B. Du Bois both advocated for schools that fostered justice for all. They along with recent activists Paulo Freire (*Pedagogy of the Oppressed,* 1971), Jonathan Kozol (*Amazing Grace: The Lives of Children and the Conscience of a Nation,* 1995), and Alfie Kohn (*The Case Against Standardized Testing: Raising the Scores, Ruining the Schools*, 2000), champion the cause of the underprivileged.

Social justice pedagogy within higher education has resulted in a less defined body of research. Thomas Tritton (2008) states that “there has been little coordination or consensus among colleges pursuing social justice goals. Nor is there a well-developed base of scholarship on the definitions, objectives, and outcomes of such endeavors” (Teaching social justice in Higher Education). Tritton’s comments seem to reflect the nature of SJ education at secular universities, while a review of the literature surrounding

Catholic and Jesuit universities uncovers clearly articulated mission statements and core curriculum requirements around SJ outcomes. The Superior General of the Society of Jesus, Peter-Hans Kolvenbach, states that "Jesuit colleges and universities in the United States [should] express faith-filled concern for justice in what they are as Christian academies of higher learning, in what their faculty do, and in what their students become" (1989).

The literature on *how* to teach social justice shows that this is a complicated endeavor. The question of how to teach social justice is affected by student age and maturity, degree of curricular emphasis, subject matter content, intended outcomes, level of institutional support, and competing political agendas. Among the many online, periodical and text-based resources, the following three offer K-12 teachers and university professors both theoretical support and practical classroom ideas and activities. (1) Ayers, Hunt and Quinn's *Teaching for social justice: A Democracy and Education Reader* (1989) offers 21 chapters on a host of social justice approaches as well as an afterword of five "Activist Forums," 48 book resources, 15 classroom resources, 27 resource organizations, 24 periodicals, 5 educational institutes, and 11 World Wide Web sites for further information. (2) Pat Russo (2006) in his resource packet titled, "What Does It Mean to Teach for social justice?" scripts 24 pages of classroom ideas that address oppression, injustice in the world, racism, classism, sexism, ableism and heterosexism. (3) Adams, Dell & Griffen's *Teaching for Diversity and social justice* (1997) provides a unified framework by which students can engage and critically analyze several forms of social oppression including: racism, sexism, classism, anti-Semitism, heterosexism, and ableism. This 374 page book provides a blend of theory and instructional support to be used as a primary or supplementary course text.

Assessing social justice outcomes is more challenging than simply testing for student content knowledge. According to Bringle, Phillips & Hudson (2004), measurement of attitudes, moral development, and levels of critical thinking requires multiple instrumentation across the affective and cognitive domains. Their *Measure of Service Learning* (2004), though focused on service learning research, articulates a rationale and methodology for measuring and assessing motives, values and attitudes. A study by Wang, et.al. (2005) attempts to quantitatively measure four dimensions of service-learning courses: personal

competence, interpersonal relationship, charitable responsibility, and social justice responsibility. Specifically assessing social justice outcomes, Mayhew and Fernandez (2007) focused on pedagogical practices. Their research question, "How do the pedagogical practices of courses emphasizing social justice content contribute to social justice learning?", relied on a self-report study that gathered student perceptions of SJ learning at the end of their courses. The instrument they used, "The Measure of Classroom Moral Practices," provided information on "attitudes and perceptions of educational practices most conducive to facilitating the development of moral reasoning and social justice learning in a classroom context" (p. 65). Nagda, Gurin & Lopez (2003) explored the question, "By what processes does multicultural learning take place?" (p.189) using pre- and post-test questionnaires that framed items from a variety of scales in order to assess learning outcomes related to "cognitive complexity . . . and democracy outcomes" (p.173). A set of questions in the post-test inquired about students' own assessment of their learning outcomes (p.173).

Padgett (2008) encourages multiple qualitative methods to gain insight into the uneven terrain of affective response research given the complexity of assessing feelings, attitudes, values, and emotions. While advocating for rigorous routines and conscientious oversight, Padgett believes that qualitative methods for social science research have never been more powerful or flexible for the researcher.

Research Question and Research Methodology

The central, driving question of this research project is "What does social justice understanding look like?" Corollary questions include "How do we recognize different levels of student understanding of social justice?" and "How are we going to assess students' social justice understanding in order to improve the University curriculum?" This research project represents a beginning effort to answer these questions. Unlike the previously mentioned studies (Mayhew & Fernandez, 2007 and Nagda, Gurin, & Lopez, 2003) which focused on students' self-reporting of their understanding levels, the researchers of this study have chosen a qualitative approach: collecting, analyzing, and interpreting student written responses in an attempt to describe student understanding.

A host of qualitative models that focus on social justice teaching are available for studying students' affective perceptions as well as cognitive understandings in higher education (Creswell, 2009; Russell & Weaver, 2008; Marshall & Rossman, 2006; Weis, & Fine, 2000; Atweh, B., Kemmis, S., & Weeks, P., 1998). Among the multiple qualitative methodologies employed, Charmaz (2005) points out that "grounded theory methods are a set of flexible analytic guidelines that enable researchers to focus their data collection and to build inductive middle-range theories through successive levels of data analysis and conceptual development. A major strength of grounded theory methods is that they provide tools for analyzing processes, and these tools hold much potential for studying social justice issues" (p. 507).

An emergent theme analysis approach to arrive at grounded theory was employed in this research study, which analyzed a data set of 61 student written samples on social justice. According to Strauss and Corbin (1990), "Theory derived from data is more likely to resemble the 'reality' than is theory derived by putting together a series of concepts based on experience or solely through speculation. Grounded theories, because they are drawn from data, are likely to offer insight, enhance understanding, and provide a meaningful guide to action" (p. 12). The methodology employed the five major components of the grounded theory approach which Strauss and Corbin outline: (a) collecting the data (interviews, observations or documents), (b) organizing the data for processing, (c) coding the data to conceptualize emerging meaning, (d) analyzing the data for emergent themes, and, (d) interpretation of findings. In addition, qualitative inquiry according to Patton (1990) is a blend of critical and creative probing that needs to be open to multiple possibilities while using nonlinear forms of thinking such as going back and forth over the data to generate creative perspectives (pp. 434-35).

The sample size of 61 students included all students within three courses taught by the researchers: (1) Global Economic Issues (Business, Junior/Senior level), (2) Introduction to Literature (Arts and Sciences, Freshman Level), (3) Secondary Teaching Strategies (Education, Freshman/Sophomore level). This convenience sampling limited the researchers' ability to generalize results beyond the targeted population. Nevertheless, the population provided a cross-section of student classes (freshman to senior)

and a reasonable expectation of a mix of responses, leading to a more probable response variance and thus a richer data set to code, analyze, and interpret.

To gather evidence of what student understanding of social justice looks like, a reflection essay was embedded in all three courses. Student essay directions:

> *You have 30 minutes to respond to the following two questions. Take several minutes to consider both prompts (below), organize your thinking, and craft a specific and detailed response for each. You will need a minimum of three well-developed paragraphs (total) to respond fully. Think of your classmates and instructor as your audience. Be honest. Instead of telling us what you think we want to hear, demonstrate your personal voice and your critical thinking, illustrated with examples from your experiences.*
>
> *Prompt #1:* *How would you define social justice?*
>
> *Prompt #2:* *In what specific ways have your experiences or your education shaped this definition? Illustrate with at least two personally significant moments or experiences that influenced your understanding of social justice in action.*

After the 61 essays were collected the researchers met to review the qualitative research methodology. Out of this initial meeting a three step action plan was created.

Step 1: Together the researchers read a random set of five essays in order to discuss, code, analyze, and interpret methodological behaviors. This initial “open forum” sharpened the qualitative procedures and encouraged methodological consistency. The researchers discussed issues, clarified qualitative methods, and established a common research vocabulary. Particular to this first step was a review of Miller and Vanni’s (2005) joint-probability of agreement methodology in assessing narrative responses as a means of achieving an acceptable level of rate reliability. This approach assesses response clarity on a numerical scale of 0-3: 0=meaning of section is not decipherable even after some reflection, 1=meaning

of part of the section is clear after some reflection, 2=meaning of entire section is clear after some reflection, 3=meaning of entire section is perfectly clear on first reading (p. 127). This numerical process was used to determine salient themes and emerging student descriptors by accepting only data that received an aggregate score of 2.0 and above.

Step 2: With chronologically numbered essays each researcher read and color-coded all essays for emerging themes with corresponding response clarity values (0-3 pts.).

Step 3: The researchers met to process initial codings, response clarity numbers and thematic discoveries. Through conversations about coding differences and selection inconsistencies a dominant terminology was settled upon. Discussion and negotiation led to consensus when response clarity values exceeded 2.0. Five themes emerged out of the nine proposed among three researchers: ethical framework (2.6), equality (3), action/change (2.3), service (3), and level of responsibility (2.3). Other themes that had been identified early on were discarded through this confirming/disconfirming, discussion based process and the joint probability of agreement methodology.

Research Analysis

The essays presented student perceptions of how social justice is defined (Prompt 1), but the analysis also revealed repeating characteristics of their understanding of SJ. These are referred to as emergent themes: equality, service, action/change, ethical framework, and responsibility. The following tables organize the data according to the differences among the responses that emerged within students' definitions (Table 1) and within the five emergent themes (Tables 2-6). Following a brief analysis of students' definitions of SJ, the themes that emerged are presented in order of the frequency with which they occurred. For most themes, these differences are displayed as ranges of student understanding of SJ. The interpretive decision making process used to place the responses in categories was based on the researchers' agreed upon working definition of social justice, the university outcomes for SJ, and rigorous emergent theme methodology.

Definition of Social Justice

The first section of the writing prompt explicitly asks for a definition of social justice. As detailed in the literature review, there are many complementary definitions of SJ. While *Wikipedia* is not accepted as an authoritative source, it was useful because its collaboratively produced entries reflect a generally held contemporary conception of the meaning of social justice. For the analysis in this section, students were considered "able to define social justice" if their responses included one or more of the following terms or concepts cited in the *Wikipedia* definition: justice, fair treatment, shared benefits, advantages, equality, equal opportunity, or human rights ("social justice"[1]). Given this working definition, this set of responses can be sorted according to their precision, from those containing confused or vague definitions to those using more precise designations.

As shown in Table 1, 18 students were not able to define social justice, gave definitions which indicated no grasp of the subject, or provided definitions which were incoherent. 43 students were able to define SJ in terms of at least one basic concept of SJ. Of the 43, seven students were able to give more developed definitions which were not only based on at least one basic SJ concept, but were also more precise and related their definition to a specific SJ problem, an instance of injustice, or the victims of injustice.

Table 1: Definition

Characteristic (43/61 displayed some form of this characteristic)	
Limited grasp of the concept of social justice (18/61)	• *Social justice is the justified means of treatment or actions of a person in society in response to a situation.* • *Maintaining a positive community that intends to eliminate deviance whenever present is the underlying meaning of social justice.*
Defines in terms of at least one basic concept of social justice (36/61)	• *Social justice is . . . doing our best to treat all of our peers with the same respect and ensure that the same opportunities are presented to each and every person in a particular social setting.*
Identifies specific social justice problem, types of social injustice, or targets of social injustice (7/61)	• *My personal definition of social justice is the act of striving for equality of all, including breaking the boundaries of race, economic status, disability, gender, or any other fabricated limits our society still honors. There are steps that have been taken to rectify the situation, but I still feel that we have a long way to go.*

[1] See Appendix

Equality

Over half of the respondents (33 out of 61) understood social justice in terms of equality, and this was expressed through phrases such as “equal opportunity,” “equal rights,” “same freedoms,” and “equal treatment.” In simple terms, students discussed SJ as equality in terms of *who* is involved, *what* the issues of equality are, and *how* equality is achieved.

Table 2: Equality

Characteristic (33/61 displayed some form of this characteristic)	
Who is involved in SJ as equality? (23/33)	• *This awareness will shed a light on our societies injustices and help to equalize all of us the way that god intended. We are all human and we all deserve the same opportunities.* • *In order for social justice to exist, every person should have the same rights and opportunities available to them... [My Father] taught me that every person in this world deserves a fair shot at what they want most in life… He showed me that every person has the right to pursue & maintain their own health & happiness, and that most importantly, social justice comes from watching those around us, and working together to find the most ideal situation for everyone involved.* • *Social justice can be defined as equality brought on by those a little more fortunate to those who happen to be unfortunate.*
What is an example of inequality? (12/33)	• *Social justice is the act of striving for equality of all, including breaking the boundaries of race, economic status, disability, gender, or any other fabricated limits our society still honors. There are steps that have been taken to rectify the situation, but I still feel that we have a long way to go… Though conservative historically, [this university] has made many attempts to raise awareness of diversity on campus. This is the first step towards equality and social justice.* • *In my opinion, it sounds like treating everyone fairly in a society. Social justice could apply to civil rights, racial differences, or even playground rules. In all three situations, social justice all boils down to fairness based on equality. In a socially just world, there would be no rich or poor, powerful or weak, cool or uncool. People would not be judged by gender, race or popularity, but rather by how they live their lives or the experiences they have gone through.*
How is equality achieved? (5/33)	• *Raising awareness of diversity is the first step towards equality and social justice.* • *Social justice in many ways is the challenging of established societal values or customs in order to achieve a certain kind of equality and freedom for everyone within a society. Social justice is not simply a monetary issue. Social justice rather is a value issue, [an] issue where standards, personal freedoms and equality is much more important.*

23 students indicated either *to whom* equality should be extended using phrases such as “even poor families” or “all American citizens” or *by whom* equality should be extended: “equality brought on by those

a little more fortunate to those who happen to be unfortunate." 15 students explained *what* SJ as equality meant by giving specific examples or types of inequalities, for example, "gender," "economic status," "education," and "race." 6 students who understood SJ as equality mentioned *how* equality is achieved, as in this example: "raising awareness of diversity is the first step toward equality and SJ." While the categories outlined here describe how the essays in this set differ from one another, there is no apparent correspondence between the categories and varying levels of understanding.

Service

The second most common theme emerging from this set of essays was Service, with 21 students characterizing their understanding of social justice through describing participation in service activities. Definitions provided by the National Council on Service Learning differentiated between volunteerism and Service Learning which were helpful in distinguishing the range of ideas about service that is illustrated in Table 3.[2]

[2] To help distinguish among the three different types of service, the following criteria, established by the National Commission on Service learning were consulted:

Service-learning:

- Links to academic content and standards
- Is reciprocal in nature, benefiting both the community and the service providers by combining a service experience with a learning experience
- Can be used in any subject area so long as it is appropriate to learning goal

Service-learning is *not*:

- An episodic volunteer program
- An add-on to an existing school or college curriculum
- Logging a set number of community service hours in order to graduate
- Compensatory service assigned as a form of punishment by the courts or by school administrators
- One-sided: benefiting only students or only the community

Table 3: Service

Characteristic (21/61 displayed some form of this characteristic)	
Community service (11/21)	*In the winter of my senior year, a massive flood destroyed virtually all of the small city of Vernonia. . . and a group of fifty students decided to help out the people in need. My classmates and I traveled to the house of an elderly woman who was wheel chair-ridden. During the flood, the insulation under her house was severely damaged, and the helpless woman was without warmth in the winter in the aftermath of a disaster. Subsequently, my classmates and I spent the larger portion of the day in the crawl space under her house; pulling sopping wet . . . insulation out to prepare for replacement insulation.*
Community service plus (4/21)	*This last summer I went with 12 other people . . . to Alpuyeca, Mexico. We went to work with the local habitat for humanity affiliate. . . . In Mexico I saw a lot of concrete block structures, small in size, with dirt floors, and no running water. This is a place where there is no fair start for the children, they can only go to school for half the day and cannot even think of college. This is a place that needs help, and sadly they are still doing better than many.*
Service learning (6/21)	*Through my church I went on a retreat to San Francisco's "Tenderloon" district, which has become a refuge for the forgotten and abused. I had always been told that the homeless on the streets of San Francisco were there because, "they were lazy bums." However on this particular trip I learned otherwise. Not only did I help serve food to these people who had no food but I also had the opportunity to sit and eat with them. The majority of them never had a chance to succeed; trapped and abused by the system they have become the down-trodden. I myself sat next to a man who went to Boston College and could not afford food because of his student loans and the lack of work. So through this trip I finally was able become truly aware of what social injustice was about by having the problem personified in front of me. Without fair treatment and equal opportunity we're all vulnerable to the pit falls of society, and that's what social injustice means to me; making sure everyone always has a chance and has help.*

The category "Community Service" includes 11 of the 21 students who described their understanding of social justice by citing an experience volunteering in the community or on a mission trip. For some volunteers serving was an altruistic act, yet for others it had been required by an organization, curriculum or family tradition. In the second category, "Community Service Plus," 4 students not only described the community service they had provided but also acknowledged that it had exposed them to real-world situations they had not previously experienced. One student, for example, was "awestruck by the severe level of poverty," while another's high school service project "opened [her] eyes to the disabled." However, these students stopped short of reflection. A third variation in the meaning of "service" was evident in the essays of 6 students who linked service to a lesson learned or self-discovery. The essays in the category "Service Learning" included comments such as "made me see I have a social

responsibility to help," and "made me realize that social justice was . . . working actively to change the ways of society so that it is more accepting to all people." This subset of the essays thus shows variation in the degree to which the service that influenced the student's understanding of SJ was transformative.

Action/Change

A theme that emerged in over one-third (23 out of 61) of the essays is that social justice involves change or action. These reflections may have been elicited by this portion of the prompt: "In what specific ways have your experiences or your education shaped this definition? Illustrate with at least two personally significant moments or experiences that influenced your understanding of social justice *in action*." As Table 4 illustrates, among the students whose understanding of SJ included the concept that SJ involves change or action, three different types of responses emerged.11 students expressed a general sense that social justice requires action or change, while 12 of the students expressed concretely that SJ requires action.

Table 4: Social Justice Requires Action or Change

Characteristic (23/61 displayed some form of this characteristic)		
General sense that social justice requires action (11/23)	• *I think in order for there to be justice, there must be more awareness, and until more people acknowledge more of the changes that need to be made, we are still limited in our thinking and acting.* • *First, we must all come to an understanding that justice for all can be achieved & then we must work together for it.* • *Social justice is the act of one or more people that protect the rights of another person or group of people.*	
Express concretely that social justice requires action (12/23)	**Mention concrete acts or actors (7/12)** • *Social justice is . . . an attempt to strive for societal fairness and equality. . . . Make sure that they have solid education systems to work through and the medical care required to be healthy.* • *Whether a person is serving food or protesting for the common good, social justice is for everywhere.*	**Achieving social justice requires changing society (5/12)** • *I hope to one day have the ability to strongly affect some political institutions and help orient more efforts into understanding and practicing social justice on a larger scale.* • *Social justice in many ways is the challenging of established societal values or customs in order to achieve a certain kind of*

	• *I was taught and encouraged to realize and then battle injustices of the world. This meant getting involved in local homeless shelters, soup kitchens, and tutoring those younger than me who needed help.*	*equality and freedom for everyone within a society.* • *Social justice has to be action directed at resolving the root cause of a societal problem.*

The 11 students who expressed only a general sense that social justice requires action used generalizations to express the idea that SJ means "doing something." They used some form of the words, "action" or "change," however, their description of this concept remained abstract.

Using a scale that distinguishes between general and specific, a second category comprises twelve essays that more directly expressed the idea that SJ requires action. 7 students mention concrete acts/actors. These students understood SJ to mean "doing something," but they gave examples of SJ requiring action and mentioned concrete acts of SJ that they had participated in, witnessed, or would like to see occur. Their understanding of SJ included the idea that there is something wrong as indicated by phrases such as "fighting for that improvement" or "fight for fairness." Further, some felt an injustice needed to be changed, as indicated in phrases such as "attempting to reverse the injustice" or "righting the wrongs."

Yet 5 of the students went further by articulating the idea that achieving social justice requires changing society. They explicitly stated that SJ requires engaging with social institutions and values and conveyed the need to target the systemic source of the injustice, using phrases such as these: "strongly affect some political institutions," "challenging of established societal values," "action directed at resolving the root cause of a societal problem," and "changing mindsets."

Social Justice Based on Ethical Framework

As outlined in Table 5, another theme that emerged was that social justice is related to some standard of behavior or decision-making. In this "Ethical Framework" category, there were variations in the degree to which students demonstrated a grasp of the ethical or moral underpinnings of SJ. Generally speaking, many students (22 out of 61) did not ground their reflections on social justice upon a standard of behavior at all, while those who did differed in what they understood to be the source of that standard.

Of the 39 students who referred to some basis for social justice, 21 of them expressed the idea that SJ is based, not upon ethics, but upon laws, rules, or some general concept of right and wrong or good and bad. On the other hand, 18 of the 39 students expressed the idea that SJ is based upon some ethical standard. Of these 18 students, 9 referred to an ethical standard but were not always clear about what this concept was, while 9 understood SJ to be the application of ethical standards associated with religion.

In the 21 essays in the first category in Table 5, the most frequent words used to characterize social justice were "right" and "wrong," as demonstrated by the phrases, "when you do something wrong" and "do the right thing." However, the responses in this category did not distinguish how right and wrong are determined or the students were vague about such a determination. Thus, one student wrote, "These rules are built on what humans inherently believe is a good and sound way of living." This category included students who did not distinguish between social justice and legal justice. In several of the essays, "punishment" was a primary theme.

Table 5: Social Justice Based on Ethical Framework

Characteristic (39/61 displayed some form of this characteristic)	
social justice is based on rules, laws, or right and wrong (21/39)	• *I would define social justice as the inherent or basic guidelines that citizens should adhere to.* • *Social justice in my mind, just the words themselves, brings the thoughts of rules and regulations to mind.* • *The laws ensure a just way of living for everyone.*
social justice is based on an ethical standard (18/39)	**Source of Ethical Standard is Varied (9/18)** • *Justice, being synonymous with morally and/or ethically correct, is what betters our humane society—separates us from the irrational animals.* • *I would compare social justice to the Golden Rule of "treat others how you would like to be treated . . . for me social justice is a higher form of the Golden Rule.* • *The definition of social justice is to have a system in which all peoples are treated fair and just.*
	Source of Ethical Standard is Religion (9/18) • *This awareness will shed a light on our society's injustices and help to equalize all of us the way that god intended . . . . At Jesuit High School, community service was part of our curriculum and was a way to become "a man for others.* • *As Christians, the message of Jesus is the foundation of the definition of social justice.* • *Raised in a Catholic environment, I have been taught to practice charity from a very young age.*

Of the 18 students who understood social justice to be an application of some ethical standard, 9 mentioned an ethical standard that was not explicitly linked to a religious belief. Most of these students referred only generally to "morality" or "ethics," as in the first example: "Justice, being synonymous with morally and/or ethically correct, is what betters our humane society—separates us from the irrational animals." The Golden Rule was the most specific formulation of an ethical standard in this category. Other students referred obliquely to the idea of equal and fair treatment, or the concept that all people have certain moral rights.

The other 9 students who understood social justice to be based upon some ethical standard associated this standard with religion specifically, Christianity. In their reflections, these students referred to God, Jesus, Christianity, Catholicism, or the Jesuit objective of forming "men and women for others." As the

majority of responses in this category refer to Catholic or specifically Jesuit teachings, students' responses along these lines were probably triggered by the portion of the prompt asking, "In what specific ways have your experiences or your education shaped this definition" and directing them to "[i]llustrate with at least two personally significant moments or experiences that influenced your understanding of social justice in action."

Individual Responsibility for Social Justice

The final theme emerged in only 9 of the 63 essays. The prompt did not directly ask students to articulate where responsibility lies for creating social justice, though it did direct them to consider their experience as individuals. However, as Table 6 illustrates, the understanding of SJ that several students articulated includes the idea that it is individuals who have the responsibility for bringing about social justice.

Table 6: Responsibility for Social Justice

Characteristic		
Individual is responsible for SJ (9/61)	Directly • *Through these courses I realized the amount of effort, work, labor, and resources that amounted to my lifestyle and common needs was massive. I began to notice my usual habits and found I was being very wasteful and selfish… It astounded me and I started to try and give as much as I take."*	Indirectly • *I would define social justice as interpreting, acting, and living every situation that is the best for others, not necessarily yourself.* • *Yes, we are given our own rights and opportunities, but I believe true social justice will be achieved when we can make decisions for our own self-interest in accordance with all the people around us.*

Of the 9 students incorporating this idea, 6 described this idea directly, as in "we can make decisions for our own self-interest in accordance with all the people around us." Three expressed this idea directly: "what I can do to help others." No significant difference emerged in the responses of students who expressed the sense of individual responsibility.

Discussion

According to this data, a variance in responses is suggested in both the students' definitions and four of the five emergent themes. With the exception of the category "Individual Responsibility," differences among the student essays reveal various dimensions of their understanding of SJ, and in some of these categories, the differences might be linked to degree of understanding.

- The students who expressed an understanding of SJ that involved service varied in their ability to explain the relationship of service to SJ and in the degree to which service raised awareness or led to the student experiencing change.
- Variations in the essays asserting that SJ requires action or change included the degree to which students were specific about required actions, with some students introducing the further notion that to bring about SJ requires engaging in systemic change.
- Students who related SJ to some standard of behavior variously identified laws, rules, or religion as the source of determining right and wrong.

These variations suggest the possibility of developing an evaluation tool for measuring a range of understanding in these areas.

The data also revealed a relationship between student understanding of social justice and the University's institutional SJ goals. The distinguishing traits of these students' understanding of social justice do relate to the following proposed SJ outcomes:

- Demonstrate self-reflective awareness of themselves and their relationships with others
- Demonstrate consciousness of others' distress and a desire to alleviate it
- Demonstrate a sense of right and wrong rooted in justifiable ethical principles
- Demonstrate a growth in maturity of understanding and actions over the course of their education

Table 7 shows how some of the emergent themes and sample data provide evidence of the proposed SJ outcomes. This analysis suggests that social justice outcomes can be measured.

Table 7: Institutional Goals and Emergent Themes

Proposed SJ Outcome	**Emergent Theme and Sample Data**
Demonstrate self-reflective awareness of themselves and their relationships with others	**Equality Theme: awareness of others & actors/agents** • *[T]hat's what social [justice] means to me; making sure everyone always has a chance and has help* • *[S]ocial justice can only be achieved when those people with higher rank and opportunities decide to help those who are not so fortunate.*
Demonstrate consciousness of others' distress…	**Service Theme: community service plus & service learning** • *Two weeks before I came to [this university] I was privileged to go on a mission trip to the island country of Haiti. I was expecting the worst, I knew that it was the third poorest country in the world, after all, but despite this knowledge I was still awestruck by the severe level of poverty that virtually everyone lives in.* • *My youth group leader and a friend of mine showed me a video of life in and around New Orleans and it was horrible. So together with my youth group we started a nonprofit called Shirt Across America. We sell t-shirts to help rebuild homes on the gulf coast.*
…and a desire to alleviate it:	**Action/Change: achieving SJ requires changing society** • *I think the social justice that I would like to work for is to grant every child the resources necessary to be a successful adult. Make sure that they have solid education systems to work through and the medical care required to be healthy.* • *In becoming active in politics I have personally realized that a major reason I want to study law is that in the future I hope to one day have the ability to strongly affect some political institutions and help orient more efforts into understanding practicing social justice on a larger scale.*
Demonstrate a sense of right and wrong rooted in justifiable ethical principles	**Social justice is Based on an Ethical Framework** • *One of the mantras of Jesuit schools everywhere is "being men and women for others" and that mantra has become quite impactful on my own life. It has spurred me and motivated me to stand up on certain issues and most importantly involve myself in activities that have been extremely impactful on me and others.*
Demonstrate a growth in maturity of understanding and actions over the course of their education	**Service: Service Learning** • *By working with these kids, I have formed an understanding of their world and from this I have learned how they have been "wronged" and have tried to help fix this. Although poor, what these kids need & want most is my time, not my money.*

Conclusion

While the University has defined what it means by social justice education and has proposed what its outcomes would be, as of yet, there is no way of measuring success in achieving the proposed outcomes. How is an understanding of social justice represented in the learner? This research project provides a partial answer. Using emergent theme analysis of reflection essays, 61 university students' perceptions of social justice were qualitatively described. Through collecting, qualitatively analyzing, and interpreting their responses, different dimensions of student understanding of social justice were acknowledged. After comparing these results to the institution's proposed social justice learning outcomes, it is evident that this line of reasoning holds promise for improving the University's social justice curriculum both in general and for the teachers' individual social justice courses.

Future Research

The goal of this project was to describe how students understand social justice in different university disciplines. Future research may focus on selecting university outcomes for social justice and designing a pilot evaluative rubric to assess levels of students' understanding of social justice. The next logical step would be to utilize the social justice rubric across the curriculum. This could include the assessment of social justice understanding across the curriculum and examining growth in student social justice understanding through a pre-post, treatment-based methodology.

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Creating and Supporting Mixed-Level Inquiry Communities

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Abstract

This paper describes three models for creating SoTL/classroom research inquiry communities with K-12 teachers and college faculty. Mixed-level inquiry groups hold significant potential for providing a middle ground for the exploration and sharing of carefully designed educational activities and classroom research, furthering the goals of multiple educational institutions in the same community. We describe exemplary projects, the essential support needed for creating and sustaining inquiry communities, and the many benefits of mixed level inquiry communities, including exposure to new ideas about teaching and learning, more intentional teaching, and contributions to the broader knowledge base about teaching and learning.

Creating and Supporting Mixed-Level Inquiry Communities

Educators at all levels face 'problems of practice' every day. Further, educators at all levels often find themselves isolated in their own classrooms and embedded in disciplinary research that does little to help them connect abstract theory to issues of student learning they encounter on a daily basis. Therefore, we argue that educators of all levels need opportunities to develop their own theories in the context of their practice and to conceptualize the relationship between educational challenges and potential solutions that will improve student learning. This conceptualization allows educators to connect theory to their practice. As Hatch explains (2005), "[Educators] make local theories that they can apply in a number of related contexts and that other teachers can learn from and build upon" (p. 2). Providing educators with the time, space, and a group of similarly motivated colleagues substantially enhances these enriching and empowering connections between theory and practice.

Many K-12 educators have opportunities for these explorations in department meetings, teaching teams, and other professional development communities. However, a culture of sharing information about teaching a teaching commons, is only gradually taking shape in higher education. The implementation of programs that foster a teaching commons can provide educators with the resources and collegial support necessary to do the sustained intellectual work of exploring problems of practice (Huber & Hutchings, 2005). Such a collaborative inquiry community can provide a powerful and immediate venue for sharing pedagogical insights, a middle groundwhere educators can share their work so that both carefully designed educational activities and the results of classroom research can be more easily accessed and extended by other educators. Between the relatively private work of teaching and the public dissemination of polished scholarship on teaching and learning, inquiry communities that are rooted in a teaching commons provide a middle ground to help educators cultivate "work that falls between individual practice and the world of generalized knowledge about teaching and learning" (Bass & Bernstein, 2008, p.304).

In this paper we share three models of K-12 teacher and college faculty collaborating in inquiry communities. These communities are evidence of the significant potential for providing a place for the development and sharing of carefully developed knowledge about teaching and learning that advances the goals of multiple educational institutions within the same community. The following case studies, which present three models of collaborative inquiry groups, begin with an outline of each institution's initiative and therefore will provide a contextual base. The descriptions of the cases are organized in three sections: *rationale, recruitment*, and *structure and analysis*. The subsequent sections of the paper include descriptions of exemplary research projects, discussion of the challenges associated with supporting inquiry communities, and a brief set of commonalities for using the framework of collaboration.

Model One: Collaborative Inquiry at Wabash College

Rationale

In the spring of 2004, the Teacher Education Program faculty at Wabash College invited college faculty and K-12 teachers to join a collaborative research group. The initiative has two major purposes. The first purpose is to provide meaningful, on-going professional development to teachers who work with Wabash education students in their field placements. The second purpose is to support and encourage K-12 teachers and college faculty to improve their practice and student learning through classroom-based research (CBR/ SoTL).

Recruitment

The Teacher Education Program at Wabash College sent announcements to three local school districts' central offices and school principals inviting teachers to participate in the CBR collaboration. We framed this collaboration as a professional development opportunity. We thought it was important to let school superintendents know that we were making an effort to give back to the schools who graciously host our students' field experiences. Those also invited to the collaboration included local alumni teaching in the

area, other teachers active with the Wabash College, faculty serving on the Teacher Education Committee, and faculty members already engaged in SoTL.

We had one year of funding from an outside grant that we used to pay teachers a small stipend, send participants to conferences, bring in an outside speaker, and offer small technology grants. Subsequently, the collaboration has been supported by the Education Program at Wabash College, which reimburses schools for substitute teachers, provides lunch, grants access to library and media center resources, and supply a copy of *The Art of Classroom Inquiry* (Hubbard & Power, 2003). The lack of long-term funding creates a challenge of sustainability. Therefore, we have welcomed anyone committed to the process of CBR and/or SoTL. Over the past four years, the group has included Wabash College faculty and teachers from five schools with varying levels of experience. Two of the authors, Gillan, a teacher educator and former junior high science teacher, and Pittard, a teacher educator, have been part of a core group of participants. The group currently also includes a first year elementary teacher, high school science and biology teachers, an elementary art teacher, a math education doctoral student, a history professor, and an English professor.[i]

Structure and Activities

The collaborative group meets for at least two full-day work sessions each semester. At the start of each academic year, teacher-researchers begin by identifying an area of curiosity or concern related to their teaching practice and/or student learning. Sessions during the year focus on the research process such as: refining questions, data collection and analysis, sharing results, and implementing changes to classroom practice as a result of findings.

The research process is ongoing, recursive and both structured and flexible enough for continued support for group members. Participants are paired with a *critical friend* from the group who provides feedback as

well as an additional vantage point into their work. Through these meetings, participants seek advice from other group members by posting project updates on the College's Moodle website or corresponding via e-mail with their critical friend. We also hold an end-of-year celebration which provides an opportunity to report the progress of members' projects and to present findings. We invite the College's academic dean, local superintendents, and school principals all to attend the celebrationas a way to show the administrators the power and promise of the work to positively impact both educator practice and student learning.

Model Two: Course-Based Intercultural Curriculum Innovation at Goshen College

Rationale

In the fall of 2006, Goshen College was awarded a major grant from the Lilly Endowment to found the Center for Intercultural Teaching and Learning (CITL). The focus of the Center is to understand the nature and process of intercultural teaching and learning as it relates to Latinos in the Midwest. The work of the Center encompasses three main areas. First the Center creates access to small liberal arts colleges for local Latino students. Second the Center works to transform curriculum and provide faculty development that supports an intercultural campus community. Third the Center publicizes through documenting work in the other two areas, funding research on Latinos in the Midwest, and disseminating findings.

Research on the retention of Latino college students makes it clear that attention to students' needs must be paid early in the academic process to college (Rendon, Novak, & Dowell, 2005). CITL began meeting with the Goshen Community Schools central district office staff in the summer of 2007 to discuss ideas for collaboration. After some initial discussions, we came to the mutual decision to form a learning community for faculty and teachers. The Goshen High School had been using a Professional Learning Community (PLC) model as their primary method for teacher professional development for about six years, and they were poised to try a new iteration of PLCs. The Faculty Learning Community (FLC) was formed under the

auspice of CITL in 2008 as a joint learning community designed to foster conversations about curriculum and pedagogy across the K-16 continuum as well as provide faculty development to Goshen professors. The focus of our mixed level faculty learning community is on three pedagogies shown to support students of color in high school and college classes: equity pedagogies, critical pedagogies, and service-learning pedagogies.

Recruitment

In March of 2008, the Goshen High School administrators asked their PLC team leaders to promote a summer professional development seminar in June at Goshen College. Seven educators participated: five high school teachers, one middle school administrator, and one member of the district office leadership team. Goshen faculty members were recruited as a part of our annual round of faculty development grant awards. Goshen has a modest endowment for faculty development that allowsus to support research, faculty publication, and work towards terminal degree completion for some faculty every year. Additional funds are also available to provide incentives for curriculum development to faculty and staff. Ten faculty members were awarded FLC grants for the 2008-2009 year.

Structure and Activities

The FLC uses two well established tools for promoting collaborative inquiry into teaching and learning. *Critical friendship* is a conceptual framework for establishing learning communities in which teachers examine student work as the basis for a change in their own classroom practice (for more information on critical friendship, see the School Reform Initiative, Inc. website: http://schoolreforminitiative.org). In the Goshen FLC, participants choose an area of student learning that they focus on for a year or more, read about that area, and look at student work with others to determine how that area of learning is advanced (or not advanced) in their classes. *Course Portfolios* involve the use of student work as evidence of learning and provide a format for going public with the results of a classroom research project. For more

information on course portfolios see the Peer Review of Teaching Project website www.courseportfolio.org.

We began the FLC with a three-day seminar in June 2008 during which participants learned to examine student work together using three protocols from the framework of critical friendship: the Collaborative Assessment Conference, the Tuning Protocol, and the Consultancy (for descriptions see SRI, http://schoolreforminitiative.org). All three of these protocols are turn-taking activities in which participants focus on a piece of student work in the context of helping a teacher to answer a question about student learning or teacher practice. In August, we continued to build a collaborative foundation and set up peer classroom observations. In September, we debriefed our classroom observations by having participants respond to the question *What did I learn about my own teaching from watching you?*

We have continued to meet each month to work on course portfolios and discuss readings on equity pedagogy, critical pedagogy, or service learning. Participants obtained permission from Goshen's IRB to use student work in their portfolios, which we anticipate will be completed by the end of May 2009. Each portfolio addresses four questions about teaching outcomes and pedagogical effectiveness. The questions are listed below.

a) What is the most important outcome of your course in terms of student learning?

b) What assignments drive toward that outcome?

c) What evidence do you find of student learning in the results of that assignment?

d) What is your conclusion as to the effectiveness of that assignment in helping students achieve the important outcome?

Model Three: Outreach to the Public Schools at Elon University

Rationale

Elon Teaching and Learning Partnership (ETLP) is a co-inquiry group composed of faculty at Elon University and teachers from nearby high schools. It is part of a public schools outreach initiative on the part of Elon University. In addition to providing high quality individualized faculty development for local high school teachers, the inquiry community was designed to bridge the divide that typically separates high school teachers and college faculty. The goal of the community inquiry was the development of viable solutions to common problems of educational practice. Funding was obtained from the Arthur Vining Davis Foundations for the improvement of secondary education.

As at Wabash, recruitment involved letters of invitation sent to local public school staff and a general call for applications from the faculty at Elon University. Unlike Wabash College, Elon's grant funding allows us to provide our participants with a stipend that acts as a significant incentive. We selected applicants who demonstrated dedication to their teaching and a desire to learn to apply classroom research techniques to better understand and improve the teaching and learning process. Although we have had interest from educators who work in varied settings, to date we have selected only those who work primarily in classrooms teaching core educational courses.

Structure and Activities

The first cohort, comprised of seven high school teachers and eight university professors from across the disciplines, has been meeting to plan projects and share progress since the spring of 2008. We obtained IRB approval to conduct assessment research on the ETLP program so each participant signed an informed consent form to allow us to use any pictures, written work, and audio and video-recordings for research purposes. Following orientation meetings in the spring and independent reading and thinking during the summer, the projects were developed during a three-day institute in August. The institute

began with participants meeting in small mixed group sessions to share problems of practice and develop potentially researchable questions about teaching and learning. The participants received training in accessing relevant literature and an introduction to the basic elements of research design and data collection methods, including audio and video tapes of interviews, focus groups, teacher journals, student work, and questionnaires. The participants were also provided with guidance through the University's IRB process since each member of the cohort designed a research project that required IRB approval. The group was facilitated by staff at Elon's Center for the Advancement of Teaching and Learning, two education professors from Elon University, and two education professors from the University of South Carolina.

The research projects were launched in the fall, and the group continued to meet on a monthly basis throughout the academic year. In the spring, meetings focused on data organization and analysis. Dissemination efforts are focused on three audiences: colleagues in the participants' own departments, schools and districts, a Web-based gallery (http://org.elon.edu/etlp/aa_etlpgallery.html), and publications and conferences for a wider audience.

Supporting Inquiry Communities

Framing questions

We have found that new teacher-researchers' initial questions are generally broad and may imply experiments that would typically be beyond the control of classroom teachers. For example, Megan, an Elon English professor with 11 years of teaching experience and no SoTL experience first posed her research question in this way "*I'd like to measure whether my students learn more from those on-your-feet, interactive, engaged kinds of teaching than they do from the more traditional me-at-the-front-of–the-classroom, answering questions, or bringing in some kind of written piece about what they've read*" (interview, 4/2008). As the participants talk among themselves, access scholarly literature, and consult

with the ETLP facilitators, they begin to ask questions that are oriented differently. These questions move towards a detailed examination of student learning in context, although some are focused on examining the impact of new methods, activities, and materials. Following the three day institute, Megan's research question was posed in a different way on her IRB application. Her question was, "*The purpose of this research is to explore what and how students learn about Early English Drama when participating in interpretation groups during the course of regular classroom assignments*" *(8/2008).*

In some cases, participants in small groups find commonalities in their problems of practice which lead to the development of common questions. One group at Elon decided they would all focus on aspects of critical thinking, contextualized in each classroom in each discipline. A high school chemistry teacher is studying students' use of critical thinking in solving chemistry problems, while a philosophy professor is focusing in the development of his students' evidence-mindedness, a discipline-specific form of critical thinking.

As described above, Goshen's Faculty Learning Community participants look collaboratively at students' work to help researchers clarify their research questions. In the Goshen program, a number of ground rules are established at the outset in order to maximize the usefulness of the group consultation and maintain an equitable, collegial work environment. The Consultancy Protocol process, for example, begins as one participant, the presenter, distributes copies of an assignment and samples of student work to the rest of the group and describes his or her problem of practice. The whole group examines the samples of student work and asks questions in order to clarify, explore, and extend the presenter's thinking about the nature of the perceived problem. After this, the whole group converses about the problem and reflects back to the presenter their ideas about what is going on. The presenter then describes his or her new understanding of the teaching and learning problem. One participant remarked that using this protocol "*resulted in a total shift in my thinking about the focus of my teaching – I think now about 'what are my students really learning?*'" (Goshen professor, interview 2/2009)

Learning about Methods: Collecting, Organizing and Analyzing Evidence

We have found it important to spend a lot of time exploring methods of gathering evidence of teaching effectiveness and student learning. Participants tend to have preconceived notions of research and data collection based on their own disciplinary training (especially in the case of our science-trained educators) or other experience with quantitative research methodology. Surveys, pre- and post-tests, and large scale videotaping are generally time intensive and may not yield much useful data in the long run. We advise teacher-researchers to list potential data sources they already have (e.g., student grades, homework assignments) and to consider how their class assignments can serve as rich data sources. For example, an English teacher in the Wabash group wanted to look at the development of study skills in her first year students. She eventually decided to use drawings her freshmen had done on the first day of school that depicted the various ways they spend their time each day. After analyzing the drawings as a baseline data source, she used the same drawing activity as follow-up post assessment at the end of the term. Educators are often surprised to learn that their own reflections on their classroom activities are legitimate data sources. At ETLP we recommended the use of small digital audio recorders so that instructors can verbally record a few impressions even when they have only two or three minutes between classes or commitments.

As an initial step in organizing their data, participants in ETLP are taught to create a crosswalk (O'Sullivan, 2004), in which sources of data are listed horizontally across the top of a matrix and research questions are listed vertically down the side. Initially checks are made in the intersecting boxes to indicate which sources of data should be used to answer specific research questions. As the analysis of questions progresses, these check marks can be replaced by short summaries of findings or even samples of data in digital format. Participants are taught to use basic inductive analysis techniques for their qualitative data such as student work and interviews, and to use Excel to conduct basic statistical analyses for their numeric data, such as attendance rates and test scores.

Developing a New Teacher-Researcher Identity

The development of a teacher-researcher identity appears to take different paths for K-12 teachers and college faculty members. All of our participants are dedicated, excellent teachers with "problem solving minds" (Hubbard & Power, 2003, p. xvi). As the teachers become more comfortable with taking a scholarly approach to their teaching, some express difficulty with integrating their teacher and researcher roles in the classroom. It may be that some teachers and some college faculty members as well, will have to take turns acting as educator and acting as researcher until they are able to integrate these two activities. Experienced college faculty members are typically comfortable with their dual roles of teacher and researcher. Experienced faculty members struggle focuses on coming to see their teaching practice as an object of research and the integration of scholarship of teaching and learning with their research based within their discipline. Some college professors worry about spending too much time on research that has not traditionally been valued highly as disciplinary research. These teacher-researchers may need guidance in exploring their departmental perspective on 'what counts' as scholarship or finding a place for their work in the pedagogical research of their discipline.

The new role of teacher-researcher is emotionally charged as teachers and professors begin to examine long-held assumptions about teaching and learning, as well as about themselves as educators. As they dig into their data to answer their research questions, they find more questions than answers. As Hubbard and Powers note in *The art of classroom inquiry: A handbook for teacher-researchers* (2003), it is important to build in time to allow for questions to shift as one becomes more intentional in observing how teaching and learning occur in one's own classroom. It is exciting to work with dedicated teachers as they reach a point in their development as scholarly teachers, realizing that student work does not only reflect the level of motivation and mastery over the material achieved by their students, but also the effectiveness of their own teaching and pedagogical strategies. Therefore, it is tempting to suggest that

once over this threshold, these educators will take a more scholarly approach to *all* of their teaching activities.

Using the Framework of Collaboration

At Wabash College, Goshen College, and Elon University, we have found that mixed-level inquiry communities can provide a middle ground for critical conversations about teaching and learning, furthering the goals of multiple educational institutions in the same community. Although the three programs vary, we all have found that through a framework of collaboration, faculty and teachers learn a great deal from each other about the nature of teaching and become more intentional in their pedagogical practices. In addition, the work they do together has the potential to contribute to our collective understanding of teaching and learning.

Each of our three institutions developed an inquiry community to meet different goals, but in observing and analyzing our own programs with the same critical eye that we are asking our participants to turn on their own teaching, we have noted a number of commonalities that seem central to the success of an inquiry community. First, time is important. Our participants benefited from having several days to work together. This time enabled them to develop a common understanding of the scholarship of teaching and learning, to develop projects rooted in their own questions about problems of practice, and to develop trust in each other as collegial partners. Regular meetings over a period of months (if not longer) also enabled our participants to offer feedback and receive help from each other as their projects progressed.

Second, breaking professional boundaries is essential. Institutions impose boundaries by arranging educators into departments and programs, but educators also impose boundaries on themselves by looking to those people and places whose practices are most similar to their own when they have questions. Enabling an unorthodox mix of specialties, fields, and kinds of expertise serves almost unavoidably to engender new insights and new ways of thinking. Through conversations, collaborative

examination of assignments and student work, visits to each others' classrooms, teachers and professors within the same discipline gain a better understanding of what happens in each others' contexts. Professors of writing are learning more about the writing experiences their students are likely to have had in high school. Teachers of biology know more about the biology labs their students are likely to do if they go to college. Working with teachers and professors outside of their own discipline invites new discoveries. A conversation shared by an art professor, a social studies teacher, and a professor of composition enables all of them to rethink how they design research assignments. They begin to see connections instead of differences among the varied kinds of work in which educators engage.

> *We are less isolated in our professional community. I saw college profs doing very good work pedagogically, but not having a time to talk about it or to measure how their pedagogy really works. We have an immediate community to talk to about teaching methodology. Upon reflection, I realized that we talk much more about pedagogy than I even quite realized.* (Goshen High School Teacher, more than 26 years teaching, interview 2/2009)

> *I appreciated being reminded that teaching is teaching, no matter at what level you're doing it that there are the same kind of issues, and I thought that [high school teachers] had thought much more consistently through teaching issues than we usually do as college professors – and so they had insights that were kind of second nature to them, that we don't usually think about.* (Goshen College professor, 6-10 years teaching, interview 2/2009)

Self-reflection, through a commitment of looking critically at student learning and how teaching practice directly impacts it, is also essential to this framework. By looking at student learning in their classrooms in a very focused and intentional way, teachers and faculty come to see their own planning and teaching methods as well as their students' learning as data. All teaching can then be viewed as experimental. Therefore, when the data reflects low levels of engagement or learning, teacher-researchers are more committed to changing their practice in order to improve student learning. By using the pedagogical

literature and through conversations with their colleagues across disciplines and across teaching levels, teacher researchers learn they can draw on these resources to inform a wide range of problems of practice and to ultimately improve their practice and increase student learning.

Most importantly, however, is how these common elements are put in the service of directed and provocative discussion. Through critical conversations, participants have found that they are all focused on very similar problems of practice and therefore, they can contribute to the advancement of understanding of deep pedagogical questions. By bringing a variety of perspectives to bear on common or connected problems, K-12 teachers and college faculty are able to arrive at contextualized possibilities for solutions. These fruitful collaborations provide an additional resource to the growing scholarship of the teaching and learning commons.

Appendix One[1]

Exemplary Projects

Amy Gillan, Visiting Assistant Professor of Teacher Education at Wabash College, former Science Teacher at Southmont Junior High School in Crawfordsville, Indiana, Participant in Wabash Inquiry Community.

Research Questions: To what degree do my landlocked 7th grade students exhibit ocean literacy? How can I help my students to become ocean literate citizens in spite of their lack of proximity to the ocean?

Methods: Student surveys based on the 'seven essential principles of ocean literacy' (National Geographic Society, 2006), were used to gauge students' levels of ocean literacy. The students and the teacher kept reflective journals as they completed hands-on activities designed to arouse student interest in and allegiance to the ocean

Results & Implications: *Initially, my students knew very little about the ocean. Even after our coursework was completed, they still had many gaps in their knowledge and clung to countless misconceptions. Although the oceans are scarcely mentioned in our Indiana State Science Standards, I came to realize that the best way to help my students become ocean literate would be to teach all the state standards through the ocean. This would instill in my students the idea that the ocean is indeed a crucial part of our lives, regardless how distant we are from the coast. Taking the time to reflect on this one aspect of my teaching has prompted a redesign of my entire curriculum.*

Michele Pittard, Assistant Professor of Education at Wabash College in Crawfordsville, Indiana, Participant in Wabash Inquiry Community.

Research Question: How does specific writing prompts impact teacher candidates' reflections of their teaching?

Methods: A case study approach was used with three cohorts of education majors in a general methods course. Students were required to keep a daily teaching journal during the two-week field work for the course. A rubric with three different levels of critical reflection was used to code journal entries.

Results & Implications: *From my analysis of the journal entries, I identified patterns that are useful for thinking about how to teach and evaluate students' journaling and reflective writing. When students were prompted to reflect on specific topics (e.g., theories of development) their answers tended to be characterized by a pervasive narrative style that was more descriptive than reflective. When students were prompted to pose their own questions at the beginning of their fieldwork, their subsequent journal entries were much more reflective. Another important finding was that I realized I should not be hesitant to comment on the content of the students' journal entries as a way to mentor them toward becoming more critical thinkers. Now, as I teach the course, I am much more intentional about teaching students how to critical reflect and provide critical feedback to them in their journal writing.*

Christi Fitch, Biology Teacher at Southern High School, Alamance County, NC Participant in Elon Inquiry Community.

Research Questions: How do students use assessment feedback? Can their use of assessment feedback be increased with intervention?

Methods: Students were guided in the use of feedback on their benchmark tests related to the North Carolina Standard Course of Study in biology. Teacher journaling, student self report data (journal responses to prompts), and test scores from 5 target students were analyzed, with a focus on student use of feedback, review strategies, and approach to testing.

Results & Implications: *This project has already taught me a lot about my teaching and my student needs. I now go into the classroom ironically asking for more feedback from my students. Students have been very honest in their answers and this has helped me change up how I present new material and how I review. I have more students staying after school for review and more students understanding and mastering the goals of biology. Doing research in the classroom has given me a greater insight into my own teaching and is the most useful professional development any teacher could ever participate in* (Fitch, research memo, 12/4/08).
Jan Bender Shetler, Prof. of History and Women's Studies, Goshen College, IN **Portfolio Title: Incorporating Intercultural Pedagogies for Teaching "Gender in World History"**
Methods: Learning outcomes related to alignment of course assignments with course goals are being examined along with student work resulting from those assignments.
Results & Implications: *I think the process – since it's not done – and maybe it is more about the process than about the final product. The whole process, not just the portfolio, but the whole process – all the things we've done – have helped me be more deliberate about what I'm doing.* (Interview, 2/2009).

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When Liking Your Students Empowers Them: A Case Study

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Abstract

This paper examines a group of first-year students attending a Historically Black University in the southeast who all took a course that utilized common teaching methods, resources, and assessments of student learning. A student course evaluation was administered in each section of the course which asked students to respond to statements regarding how they felt about their professor and their actions in the class. The results of the survey suggests that many students benefit in a meaningful way when they not only like their professor, but also when they feel that their professor respects and cares about them as both people and as students. These benefits include: greater academic confidence and self-esteem, higher levels of effort and time spent studying, and better grades.

"Because the professor cared, I think that's why most kids tried in this class."

-Anonymous student comment

Introduction

Right about the time that I was reading Ken Bain's *What the Best College Teachers Do* (2004) I was offered, and accepted, a position teaching at a well-known Historically Black University (HBCU) in the southeast. This was not my first encounter with this book. Back in 2005, two colleagues and I each presented a new, notable book on teaching and learning at one of those small college wine and cheese events. As one of my colleagues presented Bain's book, I remember wishing that I had chosen it, especially since the one that I ended up with called for what I described as "a distance between faculty and students that was dizzying." Hearing my own words shortly following a discussion of Bain's *What the Best College Teachers Do* has stayed with me ever since.

Once I got the opportunity to read the book I found it important largely because it called for a student-centered approach to teaching and learning that few other educators had ever proposed. However, I was still unsure how this kind of approach might help me when preparing for my new position. Moving from classes numbering less than twenty that were held in smart classrooms with moveable furniture to class sections where students numbered over one hundred and were held in classrooms that utilized all the technology that I could carry would certainly not help. Another concern of mine was of my own active teaching style; as such, I was concerned about the prospect of having to lecture more often than I was used to. Finally, I started to wonder about the HBCU thing. It was not that I expected being white was going to be a problem in a HBCU or any other classroom, but I was being *told* by many of my new colleagues that it would.

At the suggestion of a number of people, I read up on *how* to teach at an HBCU. I was eventually drawn to an edited volume by Frank W. Hale, Jr. entitled *How Black Colleges Empower Black Students: Lessons for Higher Education* (2006). Although there were a number of chapters that

spoke both directly and indirectly to the book's organizing theme of empowering African American students, two in particular stood out to me.

One article by Lawrence A. Davis Jr. (2006) entitled, "Success Against the Odds: The HBCU Experience" cites self-esteem building as one important characteristic of the HBCU experience. Here, Davis notes that successful individuals have "a positive attitude, which is developed through experiencing success" (44). While this article directs its attention primarily to activities performed outside of class like student government, athletics, band, choir, and clubs, I wondered more about building a positive attitude in class and about academics. Why wouldn't a similar formula work there?

Dr. Charles V. Willie (2006) wrote the second article "A Contribution to Higher Education: Mentoring Methods and Techniques Developed by Historically Black Colleges and Universities." Here, Willie really helped me to visualize the atmosphere that I hoped to create with phrases like "'giving 'good' for 'good'" and "where there is respect, there is care, concern and consideration." Willie clearly argues against creating distance between teacher and student and says, "I conclude that inspired teaching and useful learning are enhanced in school communities where there is admiration and respect between teacher and student because of their confidence and trust in each other" (77). Both of these articles ran parallel to the concepts expressed in Bain's book—towards creating an atmosphere that empowered and nurtured all students.

As a result, I kept returning to Bain's chapter "How Do They Treat Their Students?" There, Bain's example of the brilliant professor who made the class about himself was helpful when considering the affects of how power is expressed in the classroom. While many of the students in this professor's class stated how they had really appreciated the course, as many as half of the class ranked this professor as low as possible. In fact, Bain discovered that student after student said the professor "was arrogant, did not care about students, ridiculed some people in class, often bragged about the high numbers who flunked…and set harsh and arbitrary demands" (138). Like

some professors, he served as the self-appointed gatekeeper to the major where "the best students" would be the only ones allowed to move on in the major while the others would have to take a detour in another direction. For this particular professor, his self-image of being brilliant and demanding dictated a specific attitude toward his students and about the power structure in his classroom. Unfortunately, it was his attitude that cost the self-esteem and long-term success of many students.

For these gatekeeper professors, the students who ended up succeeding would likely have done no worse in ***anybody's*** classroom; after all, in every classroom there is a group of students who will succeed regardless of the teacher. Based on past experiences, I found that these professors were usually the very faculty members who often complained that admissions needed to get their department "better" students therefore throwing the responsibility of teaching all of their students anywhere but on themselves. Thus, it became clear to me that I needed to reach *all* the students in *every* class and accept the responsibility for the ones who didn't make it. Bain (2004) expressed it like this:

> With the rejection of power came an equally important and powerful trust. 'The most important aspect of my teaching,' one instructor told us in a theme we heard frequently, 'is the relationship of trust that develops between me and my students.' That trust meant that the teachers believed students wanted to learn, and they assumed, until proven otherwise, that they could learn. That attitude found reflection in scores of small and large practices. It led to high expectations and to the habit of looking inward for any problems rather than blaming some alleged student deficiency (140).

As such, I started to see the classroom as a zero-sum game where the more power the professor had, the less students did.

Conditions, Methodology, and Data

The students in this study came from general education, social science sections at a HBCU in the southeast. Students were from the same cohort of first-time, first-year students in sections that ranged in enrollments from 75-155. There was a common syllabus, common learning goals and objectives, common texts, common assignments, common presentations, common course evaluations, and common formative and summative assessments. At the end of the semester, students from eight sections were asked to fill out an anonymous survey for the class. The survey asked students to evaluate a number of statements on a four-point Likert scale. The statements sought to reveal something about students' perceptions of their professor, how much they studied, and their level of confidence in this specific class as well as other classes. Finally, some demographic questions and an open-ended written comment section were included. The data from the survey was compared by sections and then analyzed as a combined single file.

The target group consisted of two sections where the professor made additional non-academic efforts to connect with students. Some of these strategies included learning students' names early in the semester, getting to each class early to shake hands and welcome students to class, and arranging to meet students in office hours to learn more about them and the challenges that they face. In short, these were things that many professors already do however; there was a conscious effort to make sure that they understood that they were important as both people and students. These strategies were also employed as early in the semester as possible.

Figure One: Responses to Survey[i]

Survey Questions	Group T:	Group O:	Difference
I like the professor that I have in this class.	3.85	3.09	.76
The professor in this class cares about me as a person.	3.71	2.89	.82
The professor in this class cares about me as a student.	3.74	3.12	.62
The professor in this class respects me as a person.	3.82	3.16	.66
The professor in this class respects me as a student.	3.80	3.19	.61
I feel more confident in this class than I do in my other classes.	3.58	2.47	1.11
As a result of taking this class, I feel more confident in all of my classes.	2.99	2.42	.57
This class helped me to feel good about myself as a student.	3.47	2.60	.87
I tried harder in this class than I did in my other classes.	2.80	2.37	.43
I have put more time studying into this class than I did in my other classes	2.70	2.32	.38
This course has helped me to learn how to learn	3.31	2.55	.76
Total Responses: n=699	n= 172	n=527	.68

[1]In figure one the survey asked students to evaluate statements on a 4 point Likert Scale. In this figure, T refers to the target group responses consisting of two sections, while O refers to other groups responses consisting of the other six sections combined.

Figure 1 compares the target group (henceforward group T, n=172) with all of the other sections (henceforward group O, n=527) combined mean per question. For the statements in Figure 1, the overall mean difference for the twelve questions was .68 on a four point Likert scale and ranged from a low difference per statement of .38 ("I have put more time studying into this class than I did in my other classes") to a high of 1.11 ("I felt more confident in this class than I did in my other classes").

When looking at the data for the statement "I like the professor that I have in this class," the mean for group T was an extremely high 3.85/4.00; .76 higher than the mean for group O (Fig. 1). In this respect, it is understood that the term "like" is relatively vague and inexact; however, it is also a term that implies both a more horizontal relationship and a measure of closeness that many

other terms cannot. Finally, it is a term that students would find easy to understand, interpret, and respond to.

Concepts that have some overlapping qualities with "liking" are "caring" and "respect." However, while the liking statement asked students how they felt about their professor, these statements asked students to respond to how they thought the professor felt about them. When asked to respond to the statement, "The professor cares about me as a person" and "The professor cares about me as a student," the difference between the means for the groups of sections were .82 and .62, respectively. In addition, student responses to the statements, "The professor respects me as a person" and "The professor respects me as a student" produced differences of .66 and .61, respectively between the sections.

Students in each group also seem to have felt differently about themselves. For instance, student responses to the statements about academic confidence and esteem produced the means with the greatest differences between the groups of sections. Here, the difference between these sections was more than a full point (1.11) when responding to the statement "I felt more confident in this class than I did in my other classes" and .87 when responding to the statement "This class helped me to feel good about myself as a student." This sense of academic confidence and esteem may have transferred into their other classes. Thus, when responding to the statement "As a result of taking this class, I feel more confident in all of my classes," mean student responses between the two groups of sections were different by .57 (Fig. 1).

The idea that students who have developed a greater sense of academic confidence and esteem can become more successful is supported by some recent research regarding what has become known as the "Obama effect." Along these lines, a recent study published in *Science* magazine examined the power of self-affirmation exercises for minority students (Cohen *et al*, 2009). Because students felt more confident in their abilities and better about themselves, they may have been more eager to try and may have realized that they could succeed. This sort of effect

may also be at work in this instance. Students seemed more willing to really try as a result, they were more successful. When responding to the statement, "I have put more time studying into this class than I did in my other classes," the mean for students in group T was .38 higher than that for group O. Furthermore, when responding to the statement, "This course helped me learn how to learn," the mean for students in group T was .76 higher.

Figure Two: Student Response to "Liking" Questions[ii]

Survey Questions	C2:	C3:	C4:	C5:
The professor cares about me as a person	2.37	2.85	3.63	1.26
The professor cares about me as a student	2.57	3.07	3.72	1.16
The professor in this class respects me as a person	2.75	3.05	3.85	1.10
The professor in this class respects me as a student	2.78	3.08	3.84	1.06
I felt more confident in this class than I did in my other classes	1.90	2.46	3.35	1.45
As a result of taking this class, I feel more confident in all of my classes	2.00	2.39	2.95	.95
This class helped me to feel good about myself as a student	2.08	2.57	3.34	1.26
I tried harder in this class than I did in my other classes.	2.15	2.39	2.70	.55
I have put more time studying into this class than I did in my other classes.	2.20	2.34	2.87	.67
This course has helped me learn how to learn.	2.02	2.56	3.17	1.15
Total Responses n=699	n=64	n=379	n=256	

ii The Strongly Disagree and Agree categories were combined because the very low number of Strongly Disagree responses. C2: Mean response of Disagree & Strongly Disagree; C3: Mean response for Agree; C4: Mean response for Strongly Agree; C5 Difference between Column 2 & Column 4.

Figure 2 lists the combined student responses from all sections according to how they responded to the "liking" statement. Here, it is interesting to note that the mean for the "Agree" (C3) response fell very close to the middle of the mean for "Strongly Disagree"/"Disagree" (C2) and "Strongly Agree" (C4). For example, when students responded to the statement, "I felt more confident in this class than I did in my other classes," those who Disagreed or Strongly Disagreed (C2) to "I like the professor that I have in this class" had a mean of 1.90; the mean for students who Agreed

(C3) was 2.46; and, students who Strongly Agreed (C4) had a mean of 3.35—a difference of 1.45 from C2 to C4.

Other questions that referred to students' academic confidence and esteem produced similar results. When students responded to the statements "This class helped me to feel good about myself as a student" and **"**As a result of taking this class, I feel more confident in all of my classes," there were differences from C2 to C4 of 1.26 and 1.45, respectively. In addition, students who liked their professor responded that they put more time and effort into the class. This became evident from the responses to the statements "I tried harder in this class than I did in my other classes" and "I have put more time studying into this class than I did in my other classes" and the difference between those who responded Disagree/Strongly Disagree and Strongly Agree was .55 and .67, respectively.

The written student comments about the relationship between liking their professor and learning supports this data. Typical of the many statements made by students to the question "Do you think that a positive feeling about your professor makes it easier for you to learn?" were as follows:

> *If you like the person teaching you'll take in what they're saying better.*
> *Because the relationship between the professor and the student is positive, it makes it easier to learn and be able to talk to the professor.*
> *I am more willing to listen to someone I feel good about.*
> *I strongly agree, positive thoughts equal positive actions!*
> *I think the teacher's attitude has a great influence on our grades and performance in/out of the class.*
> *It makes the environment less stressful and intimidating.*
> *Because then I have a motivation to come to class and participate.*
> *It motivates a person to do better when you have such professors.*

I feel as though there is a personal connection, which makes me feel more as a student than a number.

Because your feelings about the professor reflect the feelings about the class.

Positive feelings about a professor makes you actually want to go to class and actually learn something.

Of course, it makes for a more relaxed atmosphere and learning environment.

Positive mind about the class helps a student learn.

Because the professor cared, I think that's why most kids tried in this class.

In addition, the difference between the mean course examination scores for students in group T was higher on every examination than those for group O. In some cases the difference between mean exam scores for groups T and O approached twenty points per exam. As such, it is not surprising that the means for the final grades for the course were also higher. In addition, students who received a 'D' or 'F' grade or withdrew from the course (D/F/W) for the two group T sections was 8% while the rate for group O was 24%. This latter point supports the contention that a positive academic connection was made with the students who were at the greatest academic risk.

Conclusion

Much like the successful students in the example from Bain's book, there are a group of students who will succeed regardless of their relationship with the professor. The proportion of these students varies in any given classroom, but there are many institutions whose students may have more than enough motivation yet lack either academic preparation or self-confidence. This seems to be the case at my own institution. In fact, data from recent national surveys and outcomes assessment instruments ranks this institution's students among the most motivated to succeed; however, student retention rates remain relatively low. For my institution as well as many others across the nation, these are the students who must be reached.

In an article appearing in the *Journal of Negro Education* entitled “Confidence, Trust, and Respect: The Preeminent Goals of Educational Reform” (2000), Charles Willie states that “effective teachers have confidence their students can learn” and that this confidence, if felt by students, can help “subdominant people of power” succeed (256). Clearly though, this is only the beginning of the process of academic empowerment. The next step is to make students feel confident in their own abilities and thereby begin to develop a personal culture of academic success.

The results on the liking, caring, and respect statements of this study suggest that some important and positive results can occur when faculty and students openly like and respect each other. From an individual student’s perspective, feelings of academic self-confidence and a willingness to achieve correlate with meaningful and equitable student-faculty interaction and admiration. However, while most professors would surely state that they like, care for, and respect their students, many are also more comfortable with a measure of distance between themselves and their students. As a result, students may not understand the degree to which their professor really does like them and care about them. In this respect, for teachers who really do like and care about their students, it would help many of their students if they could find ways to let their guard down enough to allow students to see that for themselves.

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Project Planning Techniques for Academic Advising and Learning

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Abstract

Similar to a traditional business project, managing an academic degree is associated with the triple constraints of time, cost, and scope. It is proposed that by applying project management concepts, tools, and techniques, undergraduate degree program advising and planning can be improved. After comparing the planning aspects of a conventional business project with the planning of an academic degree, this paper will present the application of project-planning techniques to manage the multiple constraints and the complexity associated with academic advising and planning. Furthermore, the paper will discuss the beneficial results of a pilot study in the context of teaching and learning opportunities in adopting this advising approach.

Key words*:*

Project management, undergraduate degree program, academic planning, project planning tools,

Academic advising, Gantt chart, Network, Work Breakdown Structure

Project Planning Techniques for Academic Advising and Learning

Introduction

The purpose of this study is to apply project management concepts, demonstrate the usefulness of project planning techniques in improving the process of advising, and then increase the effectiveness of academic advising and planning. Motivating factors for this study are three-fold. First, past research has shown that project management concepts have not been used in academic advising and planning. Second, applying these concepts in an academic environment will demonstrate the immediate usefulness of what we teach in management curriculum. Finally, students will receive a first-hand learning experience in practical use and application of these management concepts during the period of study and beyond.

This paper begins with discussion, using literature review, to underline the importance of academic advising as a background for this study. Then a comparative analysis of concepts associated with a traditional business project planning and academic advising are presented to identify and discuss similarities and differences. In the next section, relevant project-planning techniques are presented to demonstrate the applicability of project management concepts for academic advising. For illustration purposes, these techniques are discussed in the context of an undergraduate degree major. Finally, the paper concludes with a summary analysis and recommendations for applying project management concepts to academic advising and study planning.

Background

Academic advising develops a comprehensive study plan for college studies that enhances the learning experience for students. Poor academic advising is also a major source of student discontent (Freeman, 2008). Research (Metzner, 1989) suggests that high-quality advising reduces attrition because

it engages a student in learning and a plan (Campbell, 2008). Academic advising plays a significant role in encouraging students to take advantage of learning opportunities that are designed to challenge their intellectual and their social development (Campbell, 2008). Also, good advising is the forte of a good faculty. Therefore, academic advising deserves more attention because of its impact on student life and student performance.

Advising began in the nineteenth century and by the late 1930s, nearly all the institutions of higher education had started formal advising systems (Raskin, 1979). Research has shown that early academic advisors limited their involvement in the process to providing information about courses and registration (Moore, 1976). However, academic institutions and faculty advisors are increasing their involvement in response to evidence that quality advising is a possible solution for student attrition and degree completion (Wilder, 1981; Metzner 1989).

What is a Project?

Project is a term that is commonly used in a business context. The Project Management Institute's (PMI) publication, *Project Management Book of Knowledge* (PMBOK, 2004) defines "project" as a temporary endeavor to create a unique product, service, or result. From research and pragmatic perspectives, Gray and Larson (2005) defines project as a complex, non-routine, one-time effort limited by time, budget, resources, and performance specifications designed to meet customer needs. We define "project" as a distinctly different time-bound effort that has a definite beginning, definite ending. A project could have several related and interdependent tasks to create a unique product or service. Additionally, a project is usually associated with uncertainties and unknowns. The term time-bound does not mean that project duration is short; it means that there is a target date specified for its completion. From a student perspective, pursuing a college degree fits the definition of a project; it is a time-bound effort as the majority of students attempt to complete this project in four years. The academic degree has a definite beginning and a definite ending with a desired outcome of graduation.

Project Management

Formalized project management is concerned with completing a project on time, within budget, and according to the project specifications while satisfying both the customer and project team expectations (Jugdev and Müller, 2005; Anantatmula, 2006). PMI defines project management as the application of knowledge, tools, and techniques to project activities to meet project requirements (PMBOK, 2004). Project management is the application of specific procedures, tools, and skills that are used to achieve the goals of the client in terms of the project objectives. Project management consists of various phases as shown in figure 1.

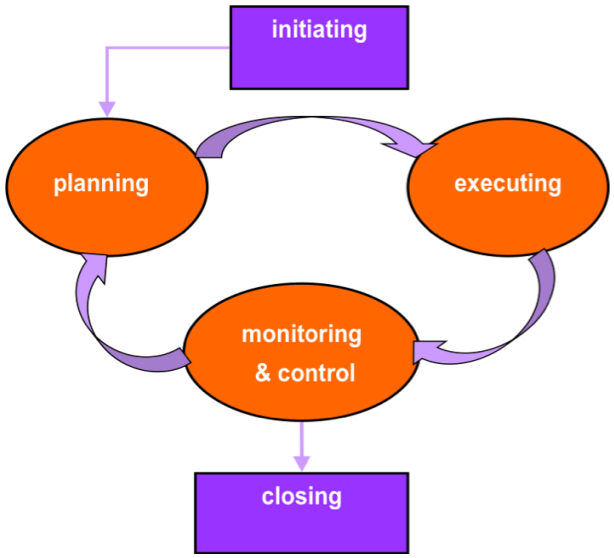

Figure 1: Project management life cycle

Reasons for Undertaking a Project

Projects are created and managed to fulfill an organization's objectives or strategic needs and market demands (Birk, 1990; PMBOK, 2004; Anantatmula, 2008). In terms of undergraduate education, the objective is to complete the degree on time, within budgeted amount for the study, and to fulfill professional, and personal goals.

Project Selection

A project selection involves analyzing various alternatives to meet a specific need. A formal project selection method is employed to select the project that meets the needs effectively and efficiently. The selection of a college degree major follows a decision-making process that is similar to a business project selection because both projects can be guided by an informal and intuitive prioritization model.

Academic Degree Constraints

Managing a college degree is very much akin to managing a project in that it is constrained by schedule (number of years and number of credits), cost (of tuition, books, room, and board), and scope (the chosen degree academic requirements). These constraints will be addressed when planning techniques (academic advising) adopt a systematic approach that will maximize the likelihood of successful completion of the degree.

Summary

Table 1: Comparison between traditional project and the academic program

	Traditional Project	***Academic Program***
Project	Project is distinctly different time-bound effort that has a definite beginning, definite ending. It could also have several related and interdependent tasks to create a unique product or service.	— Distinctly different — Time-bound (four years) — Definite beginning and ending — Interdependency of courses — Unique product (personalized diploma
Project Justification	Projects fulfill organizational objectives or strategic needs such as operational necessities, technological advancements, legal requirements, customer, and market	— Be more intellectually polished — Improve the ability to make more money — Be Involve in a certain sets of job or

	demand. Translated at operational level, projects are used as means to accomplish various business results such as the implementation of new processes, capital expansion, and new product or service.	professional endeavors — Have the opportunity to make friends with a particular segment of the society — Have the prestige of having a bachelor degree, or a graduate degree
Project initiation	A formal project selection method is employed to select the one that meets the need effectively and efficiently while fulfilling the project selection criteria.	— Evaluate the suitability of various degree programs and universities — Short-list a few for initiating the application process — Be guided by an informal and intuitive prioritization model
Project constraints	Project is concerned with completing a project on time, within budget, and according to the project specifications while satisfying both the customer and project team expectations.	— Complete within time frame — Complete within budget — Meet academic course requirements and policies
Project execution	Projects are executed in teams as they are driven by the need to integrate multiple disciplines and diverse skills to meet project objectives successfully.	— Characterized with increasing complexity and requires involvement of several people in managing a student's study plan

Applying Project Management to Academic Advising and Learning

Conventionally, managing a college degree does not require the use of all the project management processes as is true with a typical business project. Nevertheless, academic program requirements involve several people and the project management concepts, tools, and techniques used for the purpose of managing complexity and improving planning, organizing, and self-motivating.

Work Breakdown Structure

Work Breakdown Structure (WBS) is an important project-planning tool for defining and managing the project scope. WBS uses hierarchical breakdown of the project scope into deliverable work elements such that it facilitates managing these work elements effectively and developing an optimum project schedule at the work element level (Rad & Anantatmula, 2005).

WBS Development Process

A simple way to develop a WBS is to list what is delivered after the project completion and use those deliverables at high level. It is a process of grouping all project elements into several major categories based on these major deliverables or level 1 of WBS. Each one of these categories will contain several sub-categories or lower levels of WBS. More accurately, development of a WBS involves dividing the project into many parts that will make the project deliverable. This process of dividing the deliverable items is continued until the project has been divided into manageable, discrete, and identifiable items that require simple tasks to complete. A rule of thumb is to keep dividing the project until the elements cannot be divided realistically anymore (Rad and Anantatmula, 2005).

WBS should eliminate the possibility of omission of key project elements. Additionally, well-developed WBS will improve the accuracy of the project schedule. To illustrate the concept, WBS for a traditional project (home construction) and an undergraduate degree program with a major in management at a public university in North Carolina are shown Figure 2 and 3 respectively.

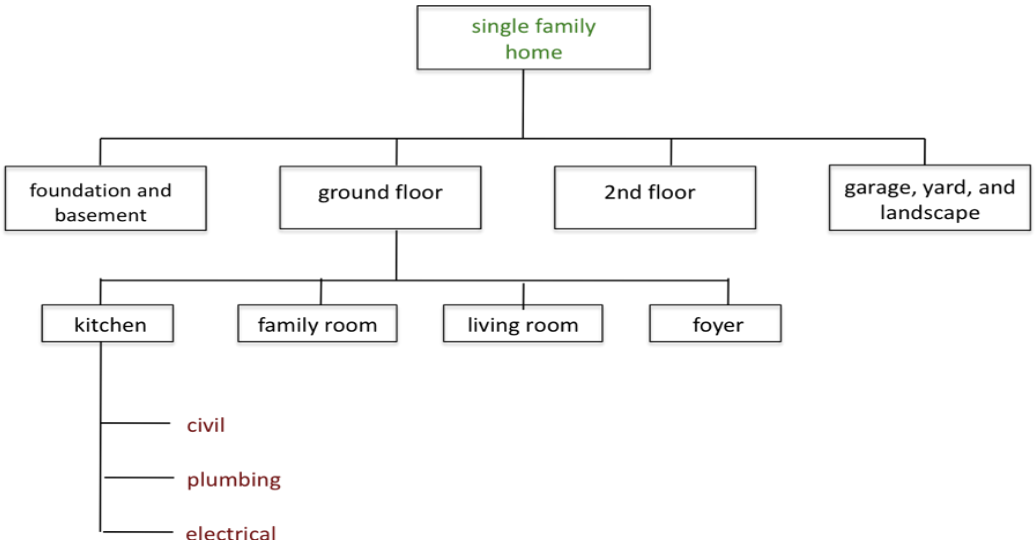

Figure 2: WBS for home construction project

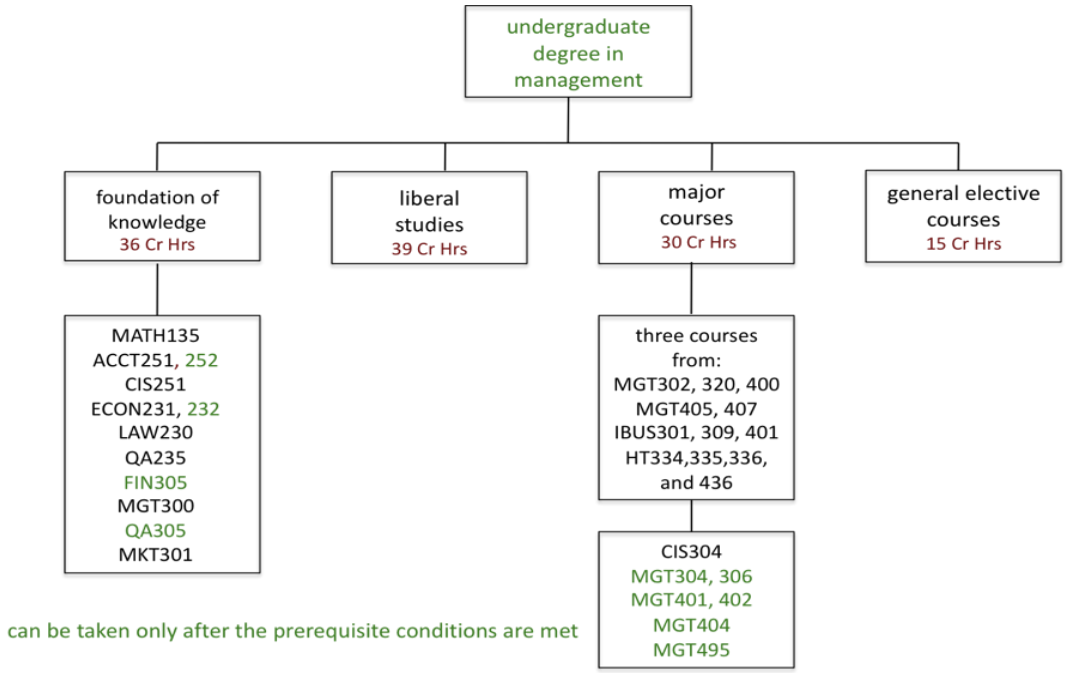

Figure 3: WBS for BS degree in Management

As shown in Figure 3, an individual course will be the lowest level work element for academic project WBS and the higher-level elements will be foundation of knowledge courses, liberal studies courses, major area courses, and general electives. From a student perspective, Figure 3 serves well in informing

the student about which courses are required and which are optional. Additionally, it will identify which courses require prerequisites, and how many courses are required within each category. These prerequisites can be courses or number of credit hours or both. Sequence constraints can be presented in the project schedule, which uses the course sequence logic.

Project Schedule

Project scheduling process assigns calendar dates of starting and ending for all project activities. Using logical sequence of executing each activity, we can also estimate the total duration of the project, allocate resources, and if required, adjust the allocation of resources. Scheduling tools and the associated information can be used for making decisions such as optimizing project duration, minimizing cost, and making effective use of resources. In the context of academic planning, scheduling techniques can be used to develop study plans for each semester. Software applications such as Microsoft Project are useful and easy to use in developing project schedules with tools such as Network and Gantt chart.

Project Network

Project network is a graphical representation of interdependencies of all tasks associated with the project. It illustrates the workflow of a project. Network diagrams are standards for building project schedules because of their emphasis on depicting dependency relations at different levels.

Network diagrams can be used to represent the complete project, or a part of it. Project activities usually have predecessor and successor relations whereas, in contrast, activities associated with processes often use feedback and feed-forward loops. It is crucial to avoid building loops into the network. If an arrow can never proceed to the left, no loops can be built into the network. It also turns out to be true that if arrows cannot proceed to the left, it is much less likely that arrows will cross each other within the network. Thus, unnecessary confusion can be eliminated. The network diagram must use only one starting point and only one ending point. It is common practice, therefore, to add start and end additional nodes to symbolize and highlight the highly emotionally charged milestones of starting the project (going to college) and completing the project (graduating). The duration of both the start and end nodes will be of zero duration, because they are milestones. Figure 4 below illustrates the concept of

developing a network diagram based on the information provided in figure 3. Using network diagram concepts, we captured the recommended and required course sequence for an undergraduate degree program. Here, the underlying assumption is that the activities proceed from left to right and no activity will proceed from right to left.

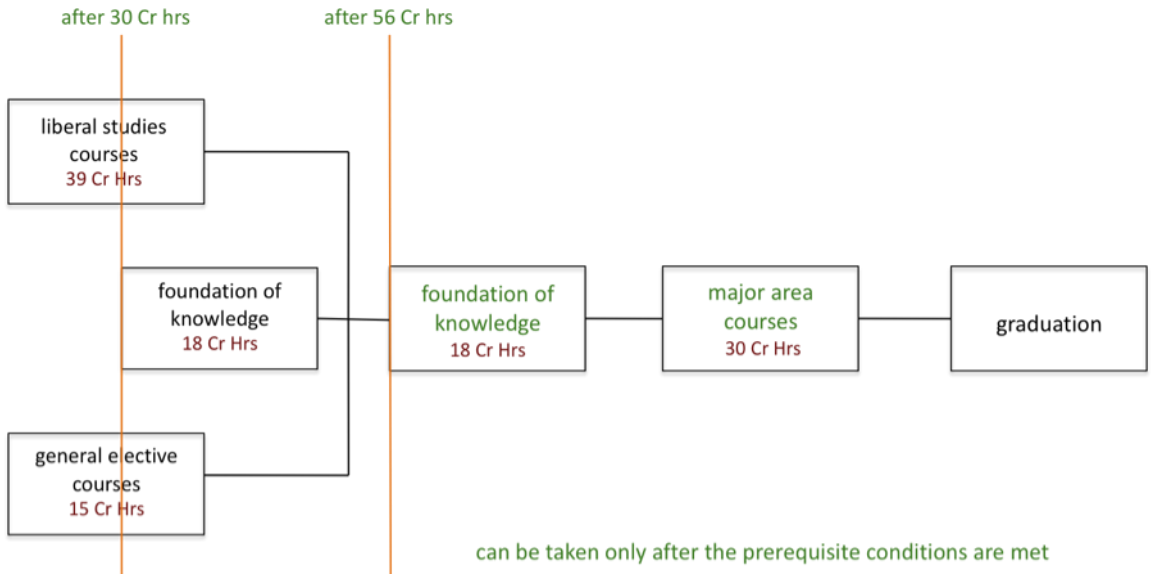

Figure 4: High Level Course Sequence Network

With the network shown in Figure 4, students can plan their course load for each semester and select the appropriate courses in the correct sequence. This high-level course sequence network provides necessary information about the management major. For instance, students can take any general elective course or liberal study course in the first semester of the freshman year and they are allowed to attempt any of the foundation of knowledge courses only after completing 30 credit hours. As a consequence, management majors are restricted from taking any of the foundation of knowledge courses during the first year of their undergraduate program.

Being at higher level, the network shown in Figure 4 does not show actual conditions, constraints, and predecessor and successor relations that exist at course level only. To illustrate, students cannot register for foundation knowledge course QA235 without completing QA135 course. Understanding these

predecessor and prerequisite relations is important for planning a semester course load. To address this need and to demonstrate the usefulness of this technique, Figure 5 is developed to show the course-level (lowest level) relations for a Bachelors of Science degree in Management.

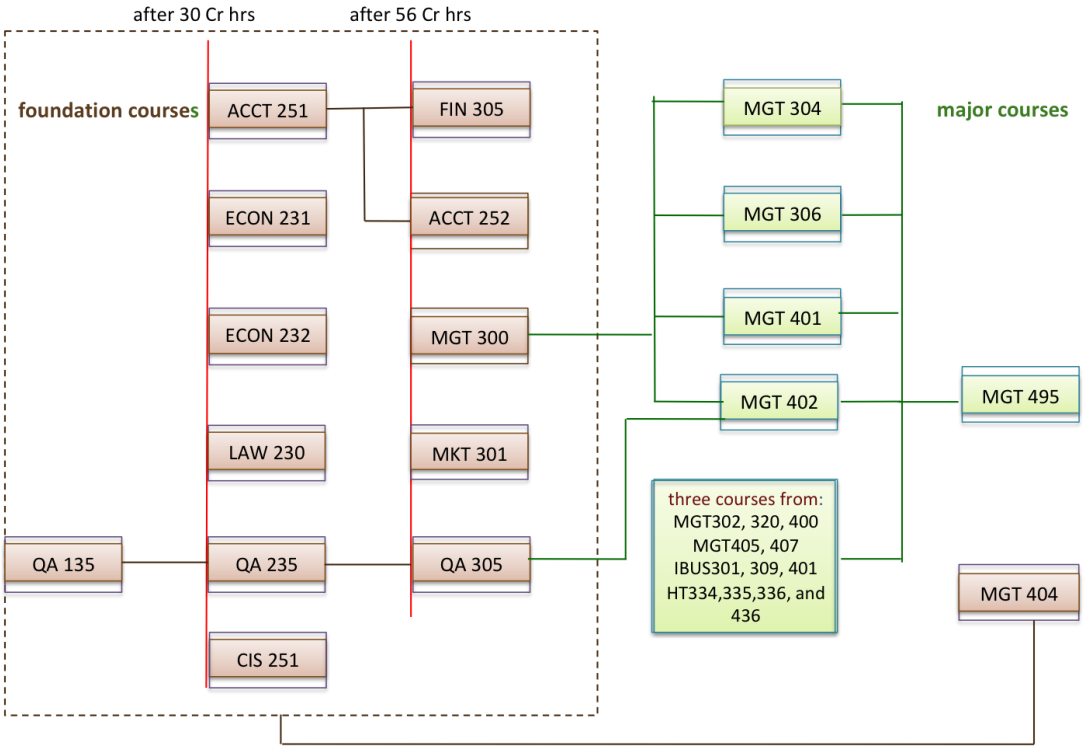

Figure 5: Detailed Network for Management Major

Figure 5 lays out a clear picture of prerequisites, conditions, courses, and their sequence. It is easy to understand the relations among courses and a quick glance will give the total picture about all the major area courses and foundation of knowledge courses. For the student, the graphical representation academic plan is clear and easy to understand compared to reading a document of instructions and mapping out the sequence for themselves. This approach is especially beneficial to the students who are visual learners. Figure 5 also expands a student's planning time horizon. For instance, one can notice that QA135 is a prerequisite to QA235, which in turn is a perquisite to QA305. Further, a student must complete QA305 before becoming eligible to take MGT402. Therefore, a student must plan at least three semesters before she earns the eligibility to register for MGT402. Therefore, a student must plan semesters ahead of each other before she earns the eligibility to register for higher level courses.

Moreover, we can use the network (Figure 5) to include detailed information such as duration of each course, and possibly the completion time of the each course and the degree itself by recording planned semester and year for each course. Planning courses on time makes for graduating on time. To further explore the academic planning on a time scale, Gantt charts will be used.

Gantt Charts

The Gantt chart is often considered the visual symbol of a project schedule. Often it is used in traditional business projects to communicate with the key stakeholders and senior management. A Gantt chart provides a graphical demonstration of a schedule that can be used to plan, coordinate, and track specific tasks in a project. It is usually drawn with activities on Y-axis and time scale on X-axis. Gantt charts can be easily developed using MS Project or similar software application package. With this tool, we can schedule courses for every semester in a linear format, mimicking the time frame it takes to complete the task of completing the degree program (Figure 6).

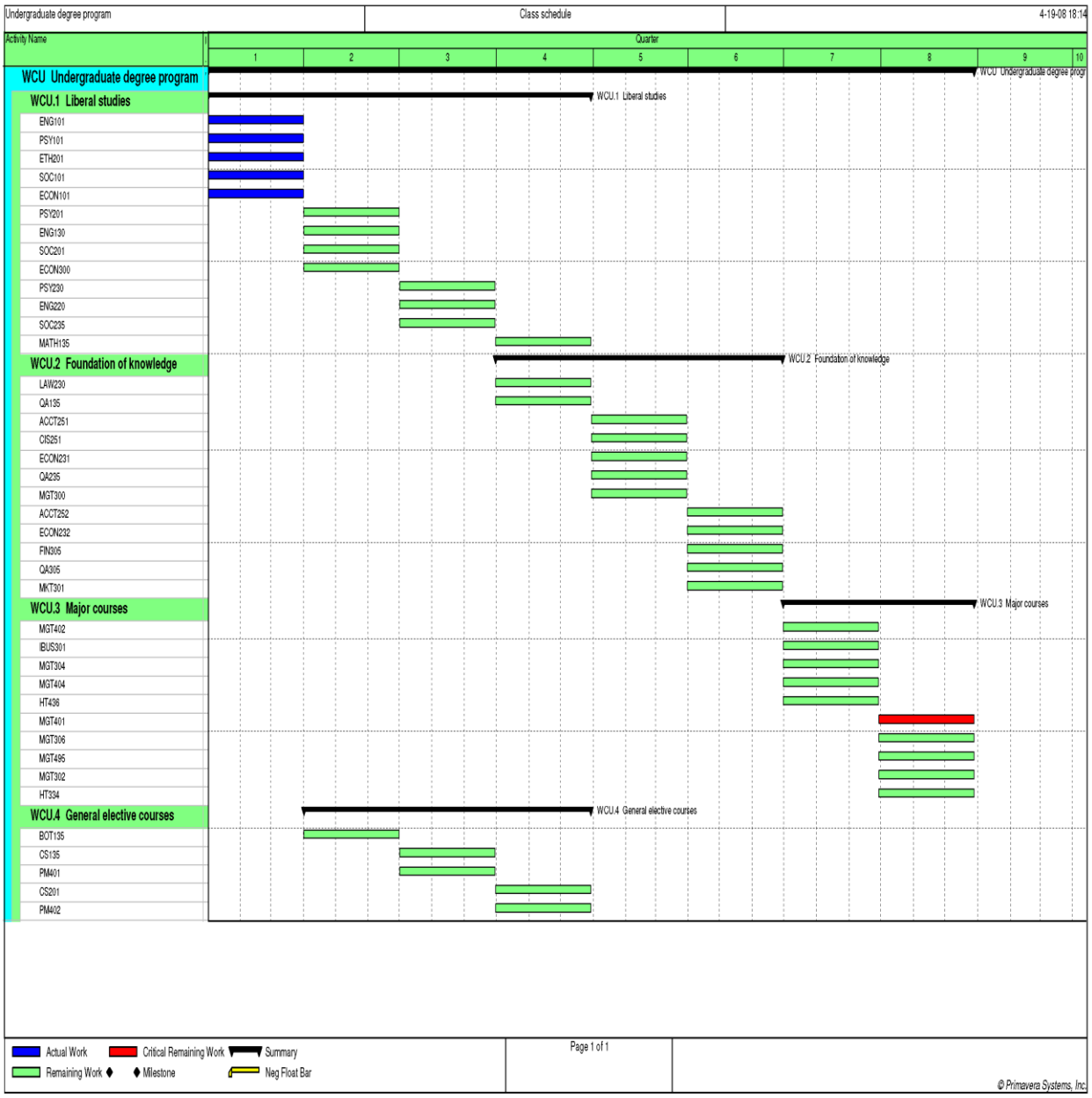

Figure 6: Gantt chart for the undergraduate program

Figure 6 shows a list of courses and the semester they are planned. Each course is assigned a start date and end date, and its total duration is 12 weeks. A variation of Gantt chart is a time-phased chart where only the major milestones of the project are plotted. This chart is suitably called a milestone chart. Gantt charts and milestone charts are often used in conjunction with a network diagram to show a

comprehensive suite of project information for baselines, schedule computations, and adjustments (Rad & Anantatmula, 2005).

The distinction between the Gantt chart and the network diagram is that the former is always drawn on a time scale, allowing students to easily understand and use it. Using this project-planning tool, a student can develop a course schedule for one year at a time or even for the entire four-year degree program as shown in figure 6. It is not only used for planning but also for monitoring the progress graphically using a different color bar. In the figure, blue color bars are used to show completed courses and green color bars depict courses yet to be completed.

Research Method and Results

To examine usefulness and effectiveness of the models presented in the previous section for academic advising, our research focused on using a pilot study consisting of fifteen undergraduate students majoring in Management from a state university and who were seeking academic advising for the 2008 Fall semester. The feedback from these students was collected using a structured and open-ended questionnaire. All the undergraduate students interviewed welcomed the idea of these visual aids and indicated that they have a clearer understanding of the requirements of the major. Most importantly, all of the students agreed strongly that this is a user-friendly tool that is easy to understand.

In terms of communication, the students agreed that these models have helped them understand the requirements of the major study without ambiguity. In addition, 60% of them indicated that they expect to spend less time with their advisors because of this tool. About half of the students who participated in the study have adopted these tools to develop their study plan for all the remaining semesters, thereby increasing the planning horizon. Furthermore, students indicated that they are likely to use project planning techniques in their professional lives.

Discussion

Our research results from the academic advising study are not surprising as all these students belong to the Generation Y (born between 1980 and 1994). Generation Y is characterized as being technical, adaptable, and learner-centered (Deal, 2007; Dobbs et. al, 2007). Generation Y students are visual learners because they have had exposure or owned a computer at a young age which has allowed them to have experience with the Internet and new technology. This particular generation can find most needed information in seconds ("Generation Y: The Millennial", 2006).

This study argues that academic advising is an integral part of teaching and learning process. In fact, the use of technology is considered a form of teaching (Campbell, 2008), which will support our approach to applying the project management concept tools to help develop and articulate the curriculum requirements for current students. As they are visual learners, engaging these students with the visual forms of academic advising can increase intellectual development. The management tools can help students to plan their careers and improve academic performance.

We should recognize that course requirements and course offerings continue to change. Such flexibility can be built into project planning tools and techniques. In conventional project management, the plan can change according to a new end result. Therefore, project management is designed to meet changing requirements. So, advisors must remember that the planning diagrams such as Gantt chart and network should not be treated as if they are inscribed in stone.

Undergraduate advising requires in depth understanding of what alternate courses can be used as substitutes, how students can be brought back to the right track if they are off track, or if special conditions apply. Knowledge about advising in these circumstances is most often resides as tacit knowledge with some experienced advisors. Project planning tools and techniques, if applied appropriately, can capture at least part of the tacit knowledge and make it available to less-experienced advisors thereby saving the time and involvement of experienced advisors.

Again, past research has shown that academic advising plays an important role in student retention (Campbell 2008) and these planning tools will help the cause.

Limitations and Suggested Future Research

Results of the study, using a pilot study of 15 students to assess the usefulness of applying project planning tools for academic advising and planning, is limited in terms of number of students who participated in the study. Although project management processes and tools are widely used in the industry for more than four decades, project management profession is still in search of establishing its value (Thomas & Mullaly, 2007). It is reasonable, therefore, to employ a comprehensive research effort to validate the usefulness of applying project planning tools to improve the value of academic advising and planning. The study should include wider group of students from different universities. Efforts are in place to develop an elaborate research study involving a large number of students assess the value of the proposed models and validate the pilot study results. Another research study can be considered to apply project management concepts for planning course work and team assignments and for immediate application of these concepts for teaching and learning.

Conclusion

Our results also show that project management tools and techniques can be effectively used for teaching and learning although it requires further validation by extending the study to a much broader group of students pursuing other management studies as well. Discussions about various project-planning tools, which are demonstrated using various models have underscored the utility and effectiveness of applying project planning techniques for academic advising and learning. As is evident from the discussions and both studies involving students from a public university in North Carolina, application of project management techniques improves the understanding of course sequence, clear understanding of all prerequisites, and other constraints. Advisors are able to provide better support to study plans by developing specific plans according to the student's major and educational needs. This approach will expand the planning horizon of students and encourage them to continue project planning skills for life after college.

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Book Review

Elizabeth F. Barkley (2010). *Student Engagement Techniques: A Handbook for College Faculty.* San Francisco, CA: Jossey-Bass, iii-398 pp. 978-0-470-28191-8.(pbk). $40.00

Adequate professional development materials for instructional developers/designers can be difficult to find. Often the information is scattered in many different resources from journal articles, books, blogs and just about everything in between. Dr. Elizabeth F. Barkley's newest book *Student Engagement Techniques: A Handbook for College Faculty* endeavors to pull from a wide variety of resources into one resource to make it easier to find solutions of how to engage students in and out of the classroom. Most instructional developers as well as instructors know how important it is to get the students in the classrooms engaged into what they are learning. The world is evolving and we need to help the students of today become life-long learners so that they can adapt to the world they will enter when they either graduate from high-school or college. In the video "Shift Happens 2009" created by Karl Fish and Scott McLeod found on YouTube (http://www.youtube.com/watch?v=OhuV_rmf5Mg), predicts that students who start school today will have between 10 and 14 different jobs by the time they are 38 years old. How will these young adults adapt to each of these 14 different jobs? Who will help them see the value in becoming engaged citizens and subsequently life-long learners?

Dr. Barkley realized this issue close to home in her own classrooms where her students did not want to be involved. She states that her students had the attitude of "just give me the information you want me to know for the test and we will both get what we need." Barkley wanted more for her students as many instructors do hence, she wrote this handbook. However, she did not just want to throw together a manual on 50 active learning strategies that an instructor could add to their curriculum, but wanted to provide the basics in a simplified presentation about why anyone would want to add active learning strategies to their curriculum. Good instructional developers are very careful about making sure that instructors know why they are adding different strategies to their classes and what the expected learning outcomes will be. It is also important for instructional developers and instructors to understand how people learn and how to

invoke motivation for the learner. Without understanding what motivates learners it can be difficult to get them interested, even at a basic level, to what is being taught or presented.

The research on student engagement and motivation could discourage an instructional developer or instructor simply because there is so much to sort through. However, there are some basic concepts about motivation and subsequent student engagement that should be understood. Dr. Barkley covers enough of this research for the readers to gain insight about what they need to do on a general level and why they need to do it. The details of what to do and how to do it are covered later in the book. If an instructional developer and/or instructor understands what motivates students to come to class to learn something then the instructor has the ability to change the lives of their students. The next step is to learn what could be added to a course and how it should be added. These may seem like simple questions but the key to adding content to any course is to make sure that it will support the learning outcomes of the course.

The use of backward course design or determining the learning objectives of the course to establish what will and will not be included in the curriculum is becoming widely accepted. Dr. Barkley, in her courses, determined that student engagement was a learning outcome she wanted to add to her curricula of courses that she teaches. She interviewed several faculty members who use active learning strategies to engage their students. These interviews culminated into the tips and strategies she included in her handbook. Experienced instructional developer will tell you to make sure that what you incorporate into your classes has been tried and put through its paces before it is added to a course. The interviews in this handbook add validity in that it is not just Dr. Barkley offering the suggestion but other instructors who have used the tips and strategies successfully in their classrooms. It is much easier to adopt new strategies if we know that they will work, especially if adding active learning strategies is something new.

A Tip/Strategy that caught my eye is number 16 “Orient students to their new roles” (pp 96-97). Dr. Barkley explains about how students today do not understand that they have a responsibility for what they learn. Barkley references Dr. Silberman’s book *The best of active training* (2004) suggests that instructors

ask their students the following question “What makes teaching active?” or maybe ask an analogous question “[what are the] Obstacles to active learning?” These class discussions may require assistance from the instructor as many students have never thought or have been asked to think about their learning practices. A suggested hands-on activity to work with the previous questions is one that I have seen before. It is where the learners or students are given a blank piece of paper and asked to close their eyes. The learners are then provided with instructions of folds and tears. When the learners open their eyes, they see that each paper is slightly different. This exercise demonstrates that just telling the learner something does not mean automatically that learning is taking place. The bottom line for this tip/strategy is stated well at the end of the description:

> “When I just hear it, I forget.
> When I hear and see it, I remember little.
> When I hear, see, and ask questions about it or discuss it with someone else, I begin to understand.
> When I hear, see, discuss, and do it, it allows me to acquire knowledge and skill.
> When I teach it to another, I start to master the topic” (p 97).

An adjacent technique that Dr. Barkley includes in her book is titled “Go for the Goal” (pp. 332-335).This technique asks students to define their learning goals for the courses they are taking. There are three steps to this technique. The first step is for the instructor to define what they believe the learning goals of the course should be. The second step is for the instructor to decide if this technique will be used for an activity, a specific unit or for the entire course. The third step, which is optional, is a handout that the instructor provides to the students on how to set learning goals. These steps will allow the students a voice in what they want to learn as well as some formative analysis of what the instructor expects the students to learn and what the students want to learn. The instructor has the option to modify, as appropriate, the goals based upon the specific group of students they are currently working with. By including the students in the decisions of what they will learn it empowers them in their own learning and is likely to improve the engagement and overall learning in the course.

As instructional designers, instructional technologists, and instructors, we all need to be innovative in how we approach the classroom. Students today are more “in touch” to their world and each other through the use of technology. However, students have also been trained to receive the information that they need to pass a test. We need to draw our learners out and get them to try to express what they know and have learned in previous experiences both in and out of the classroom in a safe environment. We may also need to adjust how the students think about their grades as a primary focus but more on what they are learning and how that might be applied to different aspects of their lives or other courses. This cannot be accomplished as easily by students listening to a lecture where they are not exploring themselves or their individual ideas. Active learning not only helps the learner to become engaged in their learning but also to become more aware of themselves as individuals and citizens. This takes practice and many learners today do not have the skills needed to become engaged as students. It is the job of instructional developers and instructors to help students move forward from a passive learner to an engaged learner.

Dr. Barkley has offered a good starting point for instructional developers and instructors. The big question of “why” do we want to do this is answered succinctly at the beginning of the book. She then offers 50 tips and strategies and then 50 Student Engagement Techniques (SETs) that can be adjusted based upon the discipline or for use in an online environment. The practical techniques provided can help instructional developers and instructors alike start the process of engaging their students in the classroom and learning process while remembering that everything that we do in our courses needs to be tied to the learning outcomes of the course. We need to start a conversation with the students and let them have a say in how they will learn while still providing the information needed for them to be successful in their college careers and their lives.

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